

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

WHOLE NUMBER 242
VOLUME XXI—No. 10

GRAND RAPIDS, MICH., OCTOBER, 1922

YEARLY SUBSCRIPTION,
\$5.00; SINGLE COPY, 50c

CONTENTS

ORIGINAL ARTICLES

	PAGE
Pericarditis With Effusion. A. F. Jennings and J. E. Delph	419
The American Foot. Harry B. Knapp, M. D., F. A. C. S.	423
Present Day Syphilis. R. C. Jamieson, M. D.	425
Modern Views of Cancer. Harry C. Saltzstein, M. D.	429
Chairman's Address—Section on Ophthal-	

	PAGE
mology and Oto-Laryngology. G. E. Winter, M. D.	432
The Blind Spot. Harry S. Gradle, M. D.	435
Tuberculosis Laryngitis. B. R. Shurly, M. D.	438

EDITORIALS

Death of Doctor A. R. Craig	444
Committee Work	444
Editorial Comments	444

Office of Publication,
Powers Theatre Building,
Grand Rapids, Mich.

Entered as second-class matter March 12, 1913, at Grand Rapids, Mich., under the Act of March 3, 1879. Acceptance for special rate of postage made under Article 1103, October 3, 1917 and authorized August 7, 1918.

The Milwaukee Sanitarium

ESTABLISHED 1884

WAUWATOSA, WISCONSIN

FOR MENTAL AND NERVOUS DISEASES



Entrance

West House

Office

Psychopathic Hospital

The Sanitarium is located in a suburb of Milwaukee, 2½ hours from Chicago. Complete facilities and equipment. Cottage plan. Psychopathic hospital on separate grounds. Fifty acres of beautiful forest and lawn. Occupational therapy under full-time graduate teacher. Highest standards maintained. Limited number. Descriptive booklet sent on application.

Rock Sleyster, M. D., Medical Director.
William T. Kradwell, M. D., Associate Med. Director.
Arthur J. Patek, M. D., Attending Internist.
Richard Dewey, A. M., M. D., Consulting Psychiatrist.

Chicago Office, 1823 Marshall Field Bldg.
Wednesdays, 1-3 p. m.

Milwaukee Office, 508 Goldsmith Bldg.
(By appointment.)



Gymnasium

Lawn

Central Hall

Forest Path

CONTENTS—Continued

	PAGE
DEATHS	
Doctor Frank Wilson Martin	445
Doctor R. E. Stocker	445
Doctor Edna M. Trewin	445
Doctor John C. Salmen	445

STATE AND SOCIETY NEWS

State News Notes	446
Genesee County	447
Northwestern Michigan Clinical Society	447

BOOK REVIEWS

Endocrine Glands and the Sympathetic System. P. Lereboullet, et al, translated by F. Raoul Mason, M. D.	448
Diseases of the Thyroid Gland. Arthur E. Hertzler, M. D., F. A. C. S.	448
Principles and Practice of X-ray Technic for Diagnosis. John A. Metzger, M. D.	448
Diseases of the Skin. Harry H. Hazen, A. B., M. D.	448
Obstetrics for Nurses. Joseph B. DeLee, M. D.	448

The HOOD Improved Heatless HEAD LIGHT



Fits as comfortably as an old hat and delivers a maximum of clear, shadow-free light just where you want it. The head band is soft, pliable leather, well padded at the forehead and fitted with slide buckle, making it instantly adjustable. The air cooled Mazda bulb eliminates heating, and the light-weight, polished reflector throws the light without shadow. Each head lamp has 7 feet of silk cord, detachable from the head band and made with special connector for quick separation, allowing operator to leave the range of the cord. Light and cord quickly detachable so head band may be conveniently used with head mirror or binocular loupe.



Frank S. Betz Co.
Hammond, Ind.

Enclosed is \$7.50 for which you may send me your 3CJ3383 Hood Improved Head Lamp.

Name..... Address.....

City..... State.....



THE SAWYER SANATORIUM WHITE OAKS FARM MARION, OHIO TREATS NERVOUS and MENTAL DISEASES

The equipment and surroundings of the Sawyer Sanatorium are ideal for the class of cases it treats. It is located on a large farm. Its fifteen buildings are of attractive, bungalow design with all modern conveniences. Its treatment facilities embrace such measures as modern, scientific medicine has found of benefit in combating nervous and mental diseases.

Its personnel is permanent and is made up of men and women devoting all their time to this line of work.

Its policies are the result of over thirty years experience in treating nervous and mental diseases.

Its endeavor is to afford the highest type of professional skill to all cases referred to it for treatment.

SEND FOR HOUSEBOOK

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XXI

GRAND RAPIDS, MICHIGAN, OCTOBER, 1922

No. 10

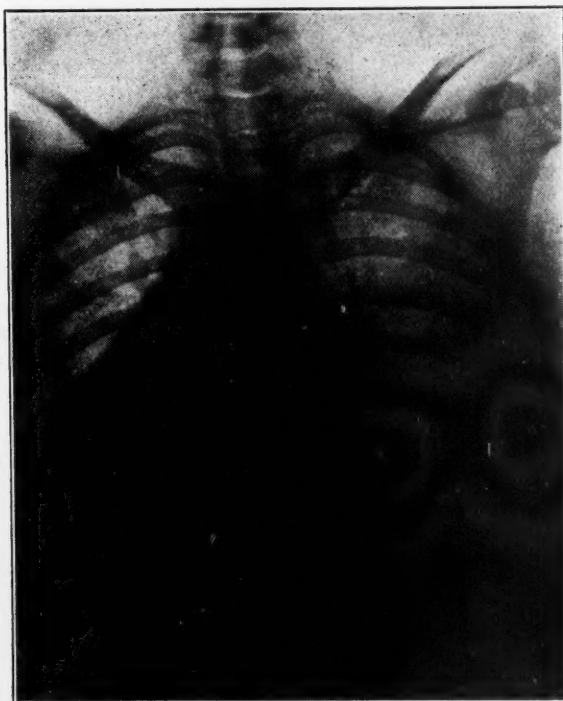
Original Articles

PERICARDITIS WITH EFFUSION

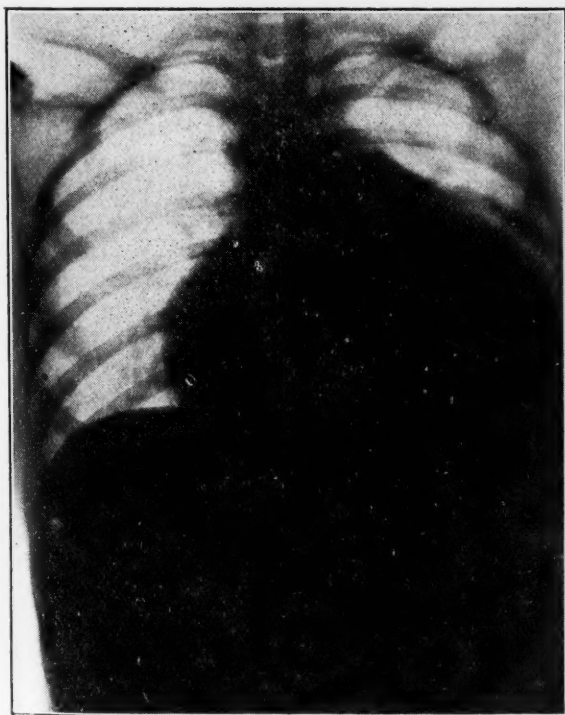
A. F. JENNINGS AND J. E. DELPH
DETROIT, MICH.

During a period of three weeks, in April and May, there appeared on the medical service of Harper Hospital three cases of acute pericarditis with effusion, which are reported in this paper. The details of the history and examination are summarized in the tables and diagrams. All cases were the result of acute rheumatic fever, the joint symptoms preceding the pericarditis by fourteen, seven and twenty-seven days. Two of the patients, both young girls, had previously had acute rheumatic fever. One of them had her tonsils removed some years before the first attack—the other, following her first rheumatism.

The two girls did not enter the hospital until some days of their illness had elapsed. Case



Case III—Miss K. K.



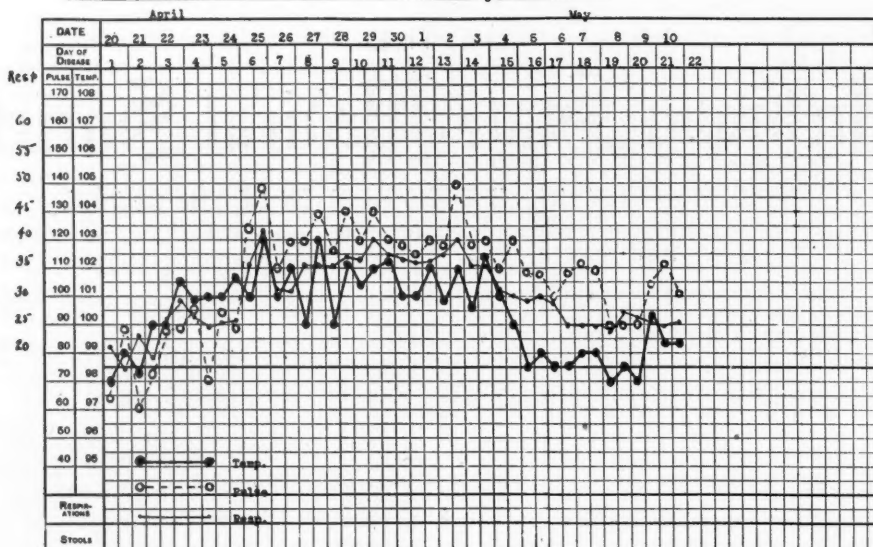
Case II—Miss M. H.

II was observed by Dr. H. M. Rich and Dr. L. J. Piney. Although a pericardial friction sound was observed by them, they concluded that there was consolidation of the whole left lower lobe. The diagnosis of pneumonia was further substantiated by a high temperature and respiration, and a rapid drop of temperature on the seventh day. Case III was carefully observed by Dr. Walter Ford. His conclusions were that endocarditis alone was present. She was indeed the most difficult case for diagnosis, and the question was open to argument up to the time of her death. Case I was under our observation in the hospital from the onset. Although the pericardial friction was observed on the second day, the pulmonary signs led to a diagnosis of pneumonia. Dyspnea was the most distressing symptom. It was very great in Case I and marked in Case II. Pain was severe in Case I and II—precordial in location. Cough was severe in Case I associated with pulmonary edema. Case I showed a mild delirium for some days. Case

NO. I

Name Mr. J. E.

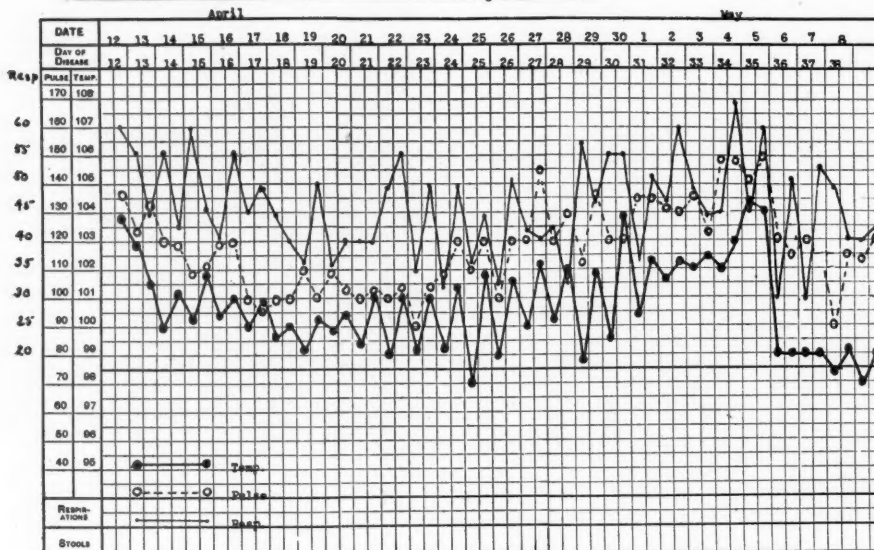
Age 22



NO. II

Name MISS M. H.

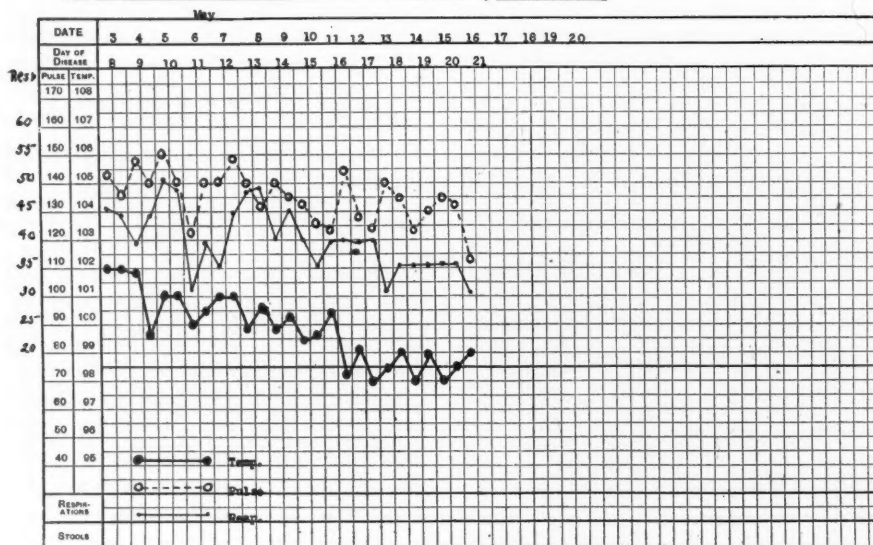
Age 15



NO. III

Name MISS K. K.

Age 15



II vomited. Case III, in whom the symptoms were not at all severe, was the one to eventually die.

The pericardial friction rub was heard in all three. In Case I and II it was leathery and rough in character, and could not be mistaken. In Case III it was soft and distinguished with difficulty from an endocardial sound. The diagnosis would have remained in doubt had not necropsy disclosed the condition. The friction rub persisted throughout the period of effusion in all cases.

The borders of cardiac dullness were interesting. In all there was an increase in the areas of dullness in the course of a few days at the beginning and a decrease during convalescence. The cardio-hepatic angle was diminished in all patients, but not more than would have been possible in dilatation of the right heart. The increase of dullness in these patients was most strikingly upward, reaching the first interspace or rib, and forming a broad curve in the second and third interspaces.

In all patients the apex impulse was well palpated throughout the illness, and near to the left border of dullness. The sounds became of poorer quality as the illness reached its peak, but not more so than would occur in dilatation. In Case II and III previous valvular disease had resulted in cardiac hypertrophy. In Case I, however, the enlargement of the heart must have been due to dilatation since there was no evidence of disease upon his entrance to the hospital.

In all patients the pulmonary signs were those of a considerable area of consolidation at the left lower lobe. In addition to this, in Cases I and II there was a smaller area of consolidation at the base of the right lung. The cause of this has not been determined. In Case III there was pleural effusion on the right, and later a pleural friction on the left. At autopsy pleuritis was observed. Severe pulmonary edema occurred in Case I in whom cyanosis was marked.

The graphic chart showed the pulse and respiration exceedingly high, while the temperature was only moderately elevated. This ratio is not at all characteristic of other acute infectious diseases.

There was marked abdominal distention in all cases—most in I and least in III. The liver was enlarged and tender in Case II after some days. It was not palpated in the others. Edema of the legs and feet also appeared in Case II.

Perspiration was a marked feature in Cases I and II.

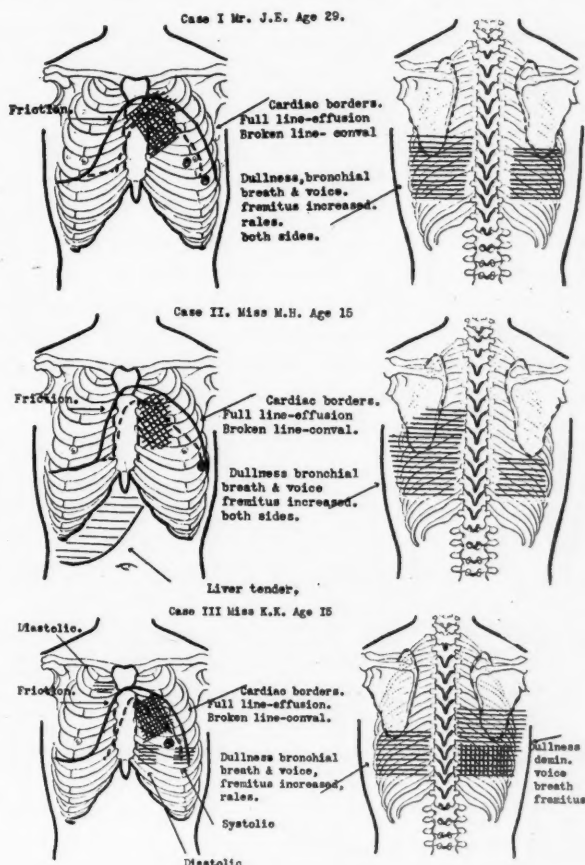
The roentgen study of the heart of Case III showed no signs of fluid, although the clinical and anatomical findings warranted the diagnosis of a small effusion. That of Case II was suggestive of fluid in that the heart shadow was excessively broad, reaching to the thoracic wall on the left, and was of the squat oval shape. The shadow of the great vessels was also markedly shortened. On the other hand, the cardio-hepatic angle was not diminished.

Aphonia, distended veins of neck, and pulsus paradoxus were not observed.

The treatment was in all cases symptomatic. Digitalis, caffeine, camphor and strychnine were used without appreciable effect. The distention was benefited by stupes and enemata. When Case I was most desperately sick, pituitrin was given, which seemed to relieve the distention and increase the volume of the pulse.

Paracentesis was considered in all cases, but not attempted. Case III was not in need of it. Cases I and II showed on examination that the ventricles were in contact with the chest wall nearly to the left border of cardiac dullness, and it was felt that the chances of withdrawing fluid in these circumstances were not sufficient to warrant the procedure. They both have recovered.

The one death of the series (Case III) re-



sulted in the patient who was least sick. A glance at her chart, however, shows a pulse and respiration far out of proportion to her fever. Death occurred on the thirty-first day of her illness—fifteen days after her temperature had become normal. Clinically, it was due to acute dilatation of the heart, and it was forewarned by a collapse which occurred the day before.

The necropsy showed a markedly enlarged heart. The pericardium was adherent to the pleura on all sides with recent fragile bands.

Both layers of the pericardium were thickened, probably the result of a previous infection. Between the visceral and parietal pericardium, and between the pericardium and the myocardium was a layer of reddish organized exudate. No fluid was present at this time, and while we feel justified in concluding that fluid was present at the time of her acute illness, it could not have been as great as in the other two patients. There was a sclerotic stenosis of the mitral valve, and sclerotic patches on the aortic valves with fresh hemorrhagic areas of endocarditis upon them.

SYMPTOMATOLOGY

	I Mr. J. E. Age 29.	II Miss M. H. Age 15	III Miss K. K. Age 15.
Previous infections	None.	Rheumatic Fever 1918-1920. Sore Throat. Tonsillectomy 1918.	Rheumatic Fever 1919. Tonsillectomy 1914.
Onset, Course	April 7. Rheumatic fever continued through illness. Acute tonsillitis.	April 1. Rheumatic fever, mild. April 9 Diag. Pneumonia left lower lobe.	March 30. Rheumatic Fever two weeks. Later returned to bed because of weakness. Normal T. P. R.
Pericarditis			
Onset	April 20.	April 7.	April 26
Pain	April 22 precordial.	April 7 precordial radiating to left shoulder, sharp.	None.
Cough	April 23 severe.	Not severe.	Not severe.
Dyspnea	Very great, April 24-May 3.	April 7. Severe.	Not marked.
Mentality	Irrational May 1-10.	Normal.	Normal.
Abdominal	Distention marked.	Liver tender. Distended.	Normal.
Vomiting	None.	April 6.	None.

GENERAL EXAMINATION

	I Mr. J. E.	II Miss M. H.	III Miss K. K.
Appearance	Extreme dyspnea Extreme cyanosis.	Marked dyspnea. Pale.	Comfortable. Pale.
Skin	Profuse sweats	Sweats.	
Focus infection..	Acute tonsillitis	Tonsils removed.	Tonsils removed.
Lungs	Diagnosed pneumonia at onset because of signs in left lower lung. Later signs consolidation right lower.	Diagnosed consolidation whole left lower lobe. Later consolidation right lower lobe.	Signs consolidation left lower lobe. Later pleural friction. Pleural effusion right.
Abdomen	April 30 great distention	Great distention. Liver tender edge 7 cm. below cm. May 1.	Normal.
Veins, thorax and neck	No distention.	No distention.	No distention.
Joints	Arthritis throughout.	No arthritis since onset.	No arthritis since onset.
Urine	Albumin.	Albumin.	Albumin.
Blood	Granular casts. April 11. W. B. C. 14,000. R. B. C. 5,120,000. Hgb. 75.	Hyaline and granular casts. April 13. W. B. C. 26,000. R. B. C. 4,960,000. Hgb. 90. May 12. W. B. C. 18,000. R. B. C. 4,810,000. Hgb. 75. Of legs and feet.	Few W. B. C. May 3. W. B. C. 16,000. R. B. C. 3,890,000. Hgb. 75.
Edema	None.	Slight anasarca.	None.

CARDIAC EXAMINATION

	I Mr. J. E.	II Miss M. H.	III Miss K. K.
Borders dullness			
R	8 cm. in 4th i. c. s.	3 1-2 cm. at 4th i. c. s.	4.5 cm. at 4th i. c. s.
L	15 cm. in 5th i. c. s.	16 cm. at 5th i. c. s.	12 cm. at 5th i. c. s.
Upper	First rib.	Lower border 1st rib.	First i. c. s.
Apex impulse ..	Diffuse 4-5th i. c. s.	Strong 5th i. c. s. 14 cm.	Strong 4th i. c. s. 9 cm.
Friction			
Character	Grating leathery rub.	Grating leathery rub.	Soft superficial to-and-fro—dis-
Location	Base and 3-4th i. c. s. to left sternum.	2-3-4th i. c. s. to left sternum.	sociated from heart sounds. 2-3 i. c. s. to left sternum.
Duration	April 27-May 14.	April 7-May 12.	April 26-May 17.
Murmurs	Diastolic at base early. Disappeared.	In convalescence diastolic of aortic regurgitation over precordium. Systolic at base.	In convalescence diastolic at aortic area and 4th i. c. s. left.
Heart sounds ..	Always fair quality. No accentuations.	Fair quality, but definitely diminished as effusion developed. No accentuations.	Systolic at apex. Good quality. No accentuations.
Shape of heart.	Wide at base. Cardio-hepatic angle obliterated.	Wide at base. Cardio-hepatic angle diminished, but less than in J. E.	Wide at base. Cardio-hepatic angle diminished.
Percussion outlines in convalescence ...	Upper 2nd rib. R. M. S. L. 12 cm.	Upper 2nd rib. R. M. S. L. 14 cm.	Upper 2nd i. c. s. R. M. S. L. 10 cm.

THE AMERICAN FOOT

HARRY B. KNAPP, M. D., F. A. C. S.
BATTLE CREEK, MICH.

With five million men in our country who but recently gazed for the first time upon their feet as a possible disability factor in their career, is it any wonder that there is widespread interest in the subject of the human foot? But the civilian no less than the soldier should have functionally perfect feet. While the army has been said to travel upon its commissariat, after all it is really the feet upon which we tread, which supports and propels man as an aggressive mobile organism no less in civilian than in military life.

This rather sudden focusing of the attention of the world upon the foot by reason of the army medical examination, has revealed some startling weaknesses, and has stimulated and aroused the interest of physicians and physical educators alike to the necessity for standardizing the treatment of this class of disabilities which is now becoming more and more prevalent. In this field, as in many others, however, prevention rightfully claims our first interest.

In order to secure the co-operation of people who have static symptoms and of those interested in their amelioration and prevention, a knowledge of the causes leading to weak foot should ever be borne in mind.

There is, however, no reason to believe that the foot is any weaker structurally than other parts of the body, providing it is not allowed to weaken or atrophy from disuse. To counteract the modern tendency to foot weakness physical educators and foot specialists of today must pitch their tents for battle against the very foundation of structural weakness, in that part of the anatomy capable of wonderful physical development, by encouraging the greater use of the foot as a carrier of body weight.

With transportation made easy, and with the telephone ever at our elbow, the walking habit is not cultivated as formerly and the increasing avoirdupois of those who thereby fail to keep down their weight by abundant exercise, thus adds obesity to weakness as a factor in breaking down the foot with its resulting symptoms.

If the technic of our modern life could be so arranged that the very foundation structure of man's motor and weight bearing organs should not sink into the depths of decadence from disuse, then and then only might we hope to circumvent the tendency to static disturbances now threatening us.

It is to be hoped that the saving of the feet of

the world may be accomplished to some extent by postural training, and recreational forms of exercise, and that the play grounds and athletic fields may serve to stem the tide against foot weakness now becoming more and more apparent.

But what is to be done for the great post-college class, and for the greater mass of folks who, owing to the division of labor must use their brains, and whose foot activities are limited to the stepping into an automobile, or the walk to the corner for a street car? That the feet suffer from disuse is only to be expected, and when we consider the great change in the motor habits of man now and yesterday, that the feet have not suffered more than they have from disuse is difficult to understand.

Taking these facts into consideration, is it any wonder that orthopedists of today are groping about for something with which to stabilize the feet? That they have not arrived at any very conclusive or universal method of overcoming foot defects, once they have been acquired, is evidenced by the varied opinions gathered by consulting this class of specialists. One school puts forth the dictum of supporting the foot arches by mechanical appliances, and with no more object in view than the transient relief of symptoms. Another school, equally authorative writes taboo against all artificial devices, and with foot exercises and postural methods goes forth to conquer the world of feet without reference to the temporary relief of symptoms, ever looking forward to ultimate and final cure.

Osgood of Boston, rather recently reviewed the muscular actions in relation to the discussion of the exercise treatment of weak feet, stating, "That the tibialis posticus, whose tendon lies in a groove behind the internal malleolus, most perfectly overcomes pronation by pulling inward on the tubercle of the scaphoid, fixing it in relation to the os calcis and preventing the rotation of the astragalus. The tibialis posticus is a weak planter flexor of the foot, but when its contraction is simultaneous with that of the tibialis anticus, which is inserted into the internal cuneiform, and a strong dorsal flexor, inversion and dorsal flexion is the result, and pronation changes to supination."

Weakness and relaxation of the tibial muscles means pronation of the feet. The constant pull of well toned tibial muscles means a high arch and freedom from foot stress and weakness. As an arch supporter the tibials are by all odds the most important muscle device to receive attention. The active shortening of these muscles can be accomplished best by the parallel foot position in standing or walking and by the simple exercise of rolling the ankle

outward, stretching the peroneal longus and brevis, but shortening the tibial muscles, thus working away from pronation. The feet should never be pronated while sitting or standing, as this stretches and relaxes the tibial muscles and the ligaments of the longitudinal arch of the foot, allowing the tibia to rotate on the astragalus, twisting it, together with the bones forming the arch, and forcing the os calcis to turn inward and downward. This condition is made worse by the tendency to walk and stand with the toes turned outward, which gradually produces deformity depending upon the tone of the ligaments and the amount of superincumbent weight.

With the disturbed foot condition and the reflected symptoms arising therefrom, such as leg ache, neuritis, growing pains, sciatica, myalgia, sacro-iliac and lumbar pain, there springs up disturbances in the balance of the body from muscle spasm resulting often in pelvic tilting in order to relieve pain, with loss of elasticity in the step and bodily poise, leading to general nervous and functional disturbances out of all proportion to the size of the original focus of trouble.

Disturbances arising in the feet, therefore often grow out of incorrect posture and obviously the posture specialist should stress the normal. The foot is only in the best functional attitude when the line of weight bearing passes through the center of the knee, and ankle joint to a point between the great and the second toes. This is physically impossible when the toes are turned outward. The forward parallel foot position is therefore an important requisite in flat foot prophylaxis.

Besides posture, and appropriate exercises, the determination of the style of the shoe is important. Owing to the generations of wearing of ill-fitting shoes, the foot has suffered greatly in its musculature, form and function. With conventional shoe-wearing habits of man unlikely to change much, we should therefore select a form of foot covering least likely to disturb the normal function of the foot.

Certain it is that when most of us reach the sensible age where we discover our feet are most useful members, rather than something to be sublimated into short, narrow and pointed encasements of questionable decorative value, and certainly valueless from the functional point of view, we discover, often too late, that the damage has been done, and we are the victims of corns, bunions, hallux valgus, metatarsalgia and pes planus.

The shoe should fit the lines of the foot as determined by its outline when traced in repose. It should consist of porous rather than colloid material, in order to insure free respira-

tory function. Feet enclosed in non-porous material are often overheated and relaxed by moisture and are more apt to suffer strain and relaxation, other things being equal. The high, tightly laced shoe splints the ankle and limits the freedom of the foot, as well as the ventilation of the skin of the foot. The low shoe has therefore the advantage from this point of view.

The flexible shank shoe so much advertised and recommended by the Y. W. C. A. is worn with comfort by certain people whose feet are not relaxed and whose weight is not above normal. Normal feet, as demonstrated by the wet foot track on a bare floor, carries the body weight along the entire length of the plantar surface, except under the arch at the inner border. To support the posterior end of the foot, i. e. the heel, above the level of the rest of the plantar surface providing no support to the outer border of the arch, is expecting too much of the foot mechanism. It is true many feet stand this strain without discomfort, but the correct method would provide the whole plantar surface of the foot with weight bearing surface. The heel should be broad and flat, not more than one inch in height, and if there is any tendency to foot pronation it should be raised a quarter of an inch on its inner side.

The question of an individual accustomed to the wearing of high heels and pointed toed shoes changing over to a low heel, broad-toed shoe, is a problem for an orthopedic surgeon, as any radical change in the style or shape of shoe, such as this should be supervised most carefully by the specialist as it entails the handling of an artificially developed foot with a shortened tendo-achilles, abnormally high arch, and distorted bone relations.

For the second degree flat foot with symptoms of foot strain in either the longitudinal or the transverse arch some form of accurately fitted mechanical appliance designed to relieve the strain by direct support until the foot weakness can be overcome by appropriate exercises, postural methods and correct shoe fitting, is necessary.

Flexible insoles in the guise of arch supports placed in shoes with flexible shanks offer poor prospect for relief of foot strain symptoms. Metal arch supports with spring devices or even rigid, but not made to fit the lines of the foot accurately as may be done from a plaster of paris impression afford scant hope for relief. On the other hand with a plaster impression model of the foot the exact lines of the relaxed foot may be followed and a plate made which accurately meets the requirements of each case. The use of 18 gage galvanized steel or Monell metal gives a durable, serviceable support which can be adjusted as the symptoms indicate.

In many instances foot strain is entirely relieved by the rigid shank shoe. Today the shoe market affords a variety of well made shoes having been constructed so as to keep the foot from sagging over the front edge of the heel and which furnish a solid weight bearing surface throughout the sole from heel to toe.

We have not attempted to cover the many special forms of weak feet such as rigid feet, metatarsalgia or Morton's toe, etc., or the weak foot resulting from special nerve or muscle paralysis, or the troubles arising out of traumatic injuries, malunited fractures, occupational deformities, etc., but rather have briefly touched upon that type of foot commonly known as flexible weak foot.

In all cases of foot disturbance the underlying cause of the condition should be sought. It may be found in an occupation which overstrains the ligaments, bad posture, or in a rapid or gradual increase in the body weight, all of which are subject, in reasonable limits, to the intelligent co-operation of the patient.

SUMMARY

By proper foot orientation, simple sensible direct methods of educating the public and especially the growing child, whose feet are yet plastic, into proper postural habits, by special foot exercises especially walking as well as intelligent shoe buying, and withal the intelligent application of the principles of physiology to a problem largely mechanical may we not hope to greatly increase the stability of man's motor mechanism, thereby contributing to the efficiency of the human machine in the performance of the world's work.

PRESENT DAY SYPHILIS

A Few Remarks on the Inactive and Latent Syphilitic and a General Resume of Treatment

R. C. JAMIESON, M. D.
DETROIT, MICH.

Only a few years ago the diagnostic teaching of syphilis was almost entirely restricted to the visible lesions of that disease—the primary, secondary and tertiary manifestations—but with improved technic and prophylaxis, diagnosis and treatment the external evidence is becoming rarer every day. We are therefore faced by the necessity of diagnosing syphilis by means of lesions other than those of the derma and in the future it will be chiefly the latent or inactive luetic—either acquired or inherited—who will present himself for diagnosis and treatment.

In conformity with the statement of Osler: "Know syphilis in all its manifestations and

all other things clinical will be added unto you," we should always consider syphilis first in all obscure conditions or in those patients in whom there may be a train of symptoms with no apparent cause. As it is manifestly impossible to cover the entire field in a short paper we will mention only a few points in connection with the symptoms and diagnosis in latent and inactive lues, both congenital and acquired.

In order to arrive at any conception of the number of latent congenital syphilitics, Wassermann tests should be done in both mother and child at all obstetrical institutions, as (1) 3.5% of newly born children have been found positive even in unsuspected cases—using placental cord blood. There would probably be more hereditary luetics if 40% of (2) married women with a positive Wasserman were not sterile.

In those children who escape the dermal manifestations of syphilis or who may appear normal there are many external evidences which indicate the syphilitic to those who search. The number is too great to mention but briefly the most important, such as the facial expression, frontal bossae, hydrocephalus of varying degrees, Hutchinson teeth, mental deficiency, retarded physical development, interstitial keratitis, iritis, saddle back nose, deafness, adenitis, dactylitis; while on a more careful physical examination many defects may be noted that can be due to syphilis in parents or grandparents, among which may be mentioned syphilis of the liver and other abdominal organs, syphilis of the central nervous system, epilepsy (according to some writers) (3). Those cases of congenital syphilis in which the infection can be traced to the grandparents are very few and apparently are becoming fewer (4), presumably due to the improvement in methods of diagnosis and treatment.

Barilan and Karmin (5) advance the idea that there are two types of hereditary syphilis—one which is due to the spirochete and shows a positive Wassermann test, the other due to a toxin and has a negative Wassermann. In the latter group they place epileptics, endocrine defects, malformations of the brain, etc. We have found many families in which some of the children had a positive Wassermann and marked evidence of inherited syphilis, while others had a negative Wassermann and no symptoms. The latter might prove to have a syphilitic toxin and develop defects later.

Remarkable improvement can be made in most of the cases of hereditary lues by prompt and efficient treatment, even those children of luetic parents who are apparently normal receiving treatment if the parents are uncured. Teyschl (6) thinks syphilis is the basis of all nervous diseases of children and advises a diag-

nostic lumbar puncture in all such cases. Efficient treatment continued for an indefinite period should keep the disease under control even though the Wassermann should continue to be positive (7).

In acquired syphilis the diagnosis during the period of inactivity or latency is much more difficult, especially in women, than in the inherited variety. It is generally conceded that unsuspected and untreated syphilis is apparently more likely to be followed by symptoms of central nervous system involvement and even though all clinical signs may be absent, the nervous system should not be overlooked as a possible area of infection.

While many cases of acquired syphilis lack dermal and mucous membrane lesions, that does not mean that the spinal fluid may not be involved early, as Wile and Halsey (8) found such evidence in 22% of 221 primary cases, Nicolau (9) found 18 out of 51 with a lymphocytosis beginning about the third week which he considers to mean a generalized infection. Even though the spinal fluid is negative at first, as invasion occurs during the first few months (10) the positive findings may be discovered at any time later. Solomon and Klauder (11) cite cases in which involvement of the central nervous system is present, but is accompanied by negative spinal fluid findings.

It is difficult to say whether there is an actual increase in syphilis of the nervous system although the improved methods of general and laboratory examinations disclose more cases constantly. Fordyce and Rosen (12) state that 25% to 30% of all secondary luetics show central nervous system involvement, but that the clinical increase is more apparent than real. While 10% (13) develop late neurosyphilis, Fraser and Duncan (14) believe that the increasingly large amounts of arsenic have a tendency to injure the cerebrospinal axis and that the arsenical spirocheticide may injure the nerve tissues. If all the spirochetes are not killed the damaged central nervous system would offer a weakened site for attack. They also believe that rapid sterilization should be attempted only before generalization, as otherwise the rapid method does not allow the formation of antibodies.

The usual evidence of nervous system involvement in latent cases may be loss of patellar reflex, numbness in the feet and legs, difficulty in walking in the dark or with the eyes closed, lack of co-ordination, tabetic bladder, which may be first disclosed by the cystoscope, loss or diminution of the sexual function, abdominal or gastric pain which may closely resemble appendicitis, gastric ulcer or cholecystitis; fixed or irregular pupils, increasing deafness, optic trophy. The presence of any of

these symptoms should at once call for more extended examination especially of the blood and spinal fluid, and treatment appropriate to each individual case should be begun. Raeder (15) found that 30% of 428 cases treated in four years showed a definite improvement, but great care should be used in treatment as many of these latent neurosyphilitics go to pieces rapidly with vigorous treatment.

In a series of excellent articles Wile (16) has discussed visceral syphilis and states that involvement can occur in all the organs, most frequently in the liver where it produces the various symptoms of hepatitis. Gummata are the most frequent lesions and quickly disappear under treatment. As they are replaced by scar tissue it often happens that the cure of the lesion is followed by an interstitial hepatitis with increasing pressure from scar tissue.

The other abdominal viscera are infrequently involved and the symptomatology is that produced by other diseases, the true etiology being discovered only with a positive Wassermann. This applies to the lungs as well, but syphilis of the heart and aorta is being found more and more constantly. Reid (17) states that aortitis is present in 3.5% of necropsies and is one of the most common and serious findings in all cases of acquired syphilis. He believes non-syphilitic aortitis is rare and it has been stated that 80% of cases of aortitis have a positive Wassermann.

Many latent cases have none of the foregoing signs indicating the presence of some visceral or nervous system involvement and only recently has work been done to demonstrate the presence of syphilis by other means.

It is not surprising that the patient may not suspect syphilis when we consider that many infections are extragenital, some may be direct blood stream inoculation, others may be a double infection or the chancre (18) may be of microscopic size and easily overlooked. Involvement of the regional lymphnodes, however, invariably follows the primary infection, Eberson (19) stating that spirochetes were found in the regional lymph glands and blood stream of rabbits in 7 and 26 days before the appearance of the lesion at the inoculation site. No spirochetes were recovered during the incubation period within the rabbit testicle, but they were recovered unaltered in the glands and blood stream in from two to seven days after inoculation. By using an emulsion of lymphnodes Brown and Pearce (20) demonstrated the viability of spirochetes in rabbits with a latent infection. They (21) also showed that the inguinal lymph glands were involved within 48 hours after inoculation of the rabbit testicle, and that invasion of the blood stream

had occurred by the time the inoculation lesion could be recognized—even as early as one week.

The presence of lymphadenitis is now being utilized in the diagnosis of both primary and latent lues. Droop (22) recommending gland puncture if the primary sore is inaccessible or contaminated by many similar organisms. Engman and Ebersson (23) found 3 out of 14 latent cases with inguinal glands where the spirochetes were viable. They (24) also examined the semen in 17 latent cases and found the organism in two cases.

The value of the Wassermann test, luetin and the spinal fluid examinations should be regarded as relative. A discussion of their value would constitute many papers, but it should be remembered that the Wassermann is not infallible and that positive evidence of lues should outweigh a negative test, but that a repeatedly positive Wassermann in a latent case should be strong presumptive evidence of syphilis. In diagnosing latent syphilis the weaker reactions should not be allowed to outweigh the physical findings and history, but they are of value in treated cases. The luetin test is of most value in congenital and tertiary cases, but should never be used after the ingestion of iodine. The recent development of the spinal fluid examinations has enlarged our diagnostic ability, the colloidal gold curve being especially valuable in prognosis as well as diagnosis.

It is now generally conceded that each group of syphilitics and even each case will require treatment especially adapted to that group or case, that which is given to primary cases being prohibited in old, visceral, heart or nerve cases.

The abortive treatment will fail in the vast majority of cases if invasion of the lymph nodes and blood stream occurs early, as the work of Brown and Pearce would indicate. Hecht (25) excises or destroys the chancre, gives three or four arsphenamin injections and fifteen calomel injections and believes in the abortive cure within certain limits. It would almost seem necessary to begin the administration of arsphenamin immediately after any suspicious exposure if an actual abortion of the disease were to be accomplished.

Levy-Bing and Gerbay (26), however, think that abortive treatment must be begun before the 37th day to be effective.

The treatment of the later phases of syphilis can be outlined only in a general way. Keeping in mind the fact that the patient is only human and that the spirochetes are distributed to all parts of the body, no attempt should be made to completely rid the host of the invader to the detriment of the host. It is not necessary to produce a nephritis or hepatitis from treatment to enable the patient to complete his life

comfortably nor is it worth while to kill the patient in order to cure his disease.

These points should be borne in mind during the administration of either mercury or arsphenamin, at the same time remembering that the most efficient plan of treatment is the intermittent one which is less liable to damage the viscera of the patient. The total amount of either mercury or arsphenamin and the length of time treatment is to be continued are factors which will vary in each case according to requirements, but a brief discussion of the merits and demerits of the various methods and preparations may be of some value.

The internal, inunction and injection method of giving mercury all have a certain place and a definite value to me in the order named. I use the internal method only in a case of absolute necessity, as it appears to me to offer the disadvantages of inaccuracy of absorption rate, self medication, an increased liability to stomatitis, gingivitis and the production of a "mercury fast" spirochete. The inunction method is painless but is also a form of self-medication and in addition has the disadvantages of inaccuracy of dosage and inconvenience of application. If properly carried out this method can be as effective as any other, but the great majority of syphilitics will neglect this treatment unless constantly supervised. The injection method appears to me to fulfill the requirements of mercury treatment—which is to maintain the highest point of saturation with mercury compatible with undamaged viscera. It has the advantage of frequent observation of the patient, accuracy of dosage, lessened liability to produce stomatitis and gingivitis, rapidity of action and a fairly definite rate of absorption. It is true that most injections are painful and also are financially less attractive to the patient, but I believe the requirements can be complied with more nearly by this method, using either soluble or insoluble preparations provided the rate of absorption is kept fairly constant and as high as is possible with safety.

The newest method of giving mercury (intravenous) does not appear to me to have a logical place in the routine treatment of syphilis. In certain cases rapid effects may be desired when arsphenamin is contra-indicated and in these cases mercury intravenously fills the requirements, but it would appear to offer more opportunity for renal damage and it would be extremely difficult to keep the rate of absorption at a constant, safe level.

Lomholt (27) believes that mercury does not act directly on the organism, but stimulates the bactericidal power of the human organism. If that is the case the mercury given intravenously

would be in the body a shorter time than when given in any other way.

Sabouraud (28) states that those patients who had been treated with mercury exclusively and got a negative Wassermann showed no relapse, while those treated with arsphenamin exclusively but had the treatment interrupted showed a greater positive Wassermann:

Ramsey and Groebner (29) state that mercury salicylate should be given twice a week instead of once and that mercuric chloride is eliminated for six or seven days.

Bastron (30) uses mercuric chloride two or three times a week in .1 grain doses.

Cole, Littman and Sollmann (31), investigating by X-ray, the absorption of mercury, think gray oil is dangerous and inefficient, while mercury salicylate is satisfactorily absorbed in about four days in the gluteal muscles, but is not uniform in all cases.

The results of toxic quantities of mercury are the same no matter by what method or what preparation administered and the degree of tissue injury bears a direct relation to the actual amounts of pure mercury absorbed (Kolmer and Lucke) (32).

Hazen in his work on syphilis states that the toxicity of mercury intravenously is four times that intramuscularly and is also directly proportional to the amount of mercury contained. This varies in the different preparations, being 58% in mercury salicylate, 45% in mercury benzoate, 74% in mercuric chloride, 83% in mercury oxycyanide and 50% in mercury succinimide.

In the use of arsphenamin we have gone far from the original dictum of Ehrlich. Some of us give very little, others have given moderate doses every two or three days in certain cases for two or three weeks at a time. Not only is there one brand of arsphenamin on the market, but there are many.

The general consensus of opinion appears to be that the arsphenamin of today is safe enough if used intelligently and in proper cases and doses, but that the liver should be carefully watched just as the kidneys are while giving mercury. Many cases are on record where it is stated that hepatitis has been due to arsenic, many cases of exfoliative dermatitis with fatal termination and many cases also of fatal termination due to carelessness or inexperience of the operator.

Schamberg, Kolmer and Raiziss (33) state in therapeutic activity 0.6 gm. of arsphenamin is equal to 1.05 gm. of neoarsphenamin, but that 1 gm. of neoarsphenamin is safer than .6 gm. of arsphenamin.

Single, small or subcurative doses of arsphenamin are of no value and do not pre-

vent reinfection in insufficiently or uncured patients. (34.)

Mehrtens gives up to 4 gm. of neoarsphenamin in 100 C. C. of solution per rectum and states that he considers his results as good as those obtained by other methods (35).

It has been the writer's practice in selecting any particular brand of arsphenamin to use only one brand that has proved to be productive of the best clinical results with the fewest untoward effects and to use that brand until toxic symptoms or poor results warrant a change.

One of the newest of the arsenic family, silver arsphenamin, is being extensively tried out at present and the reports vary somewhat as to its efficiency.

Fordyce (36) thinks it is a valuable addition, Parounagian (37) believes lesions respond more promptly than with the other arsenicals. Michelson and Siperstein (38) noted marked effects in small doses, but believe it is too early for final judgment; Guy and Jacob (39) think it worth a trial and may be used later for those with idiosyncrasy to arsphenamin, but that argyria may be anticipated; Watson (40) reviews the work of the continental writers and finds the same diversity of opinion.

At present it would appear that silver arsphenamin can be used in smaller doses with very slight reactions, but apparently it does no more than efficient arsphenamin treatment will do. It may ultimately succeed arsphenamin, but it should always be borne in mind that argyria is a possible sequel, although only one case has been reported (41) (and that a doubtful one).

There are various other arsenical preparations on the market which purport to be as good as arsphenamin, freer from danger and easier to give, but they are all varied combinations of sodium cacodylate, mercury and iodine, the first of which is a good tonic, but worthless in the treatment of syphilis.

Chargin (42) has made a comparative study of some of the intensive methods, using both arsphenamin and mercury and has come to the conclusion that clinically and serologically all methods were equally good, but that the less intensive had a greater margin of safety.

In these days of intensive and intravenous medication it is well to pause occasionally and consider the solutions and drugs that are being poured indiscriminately into our patients' veins and wonder whether it is the wisest plan. In this connection Brocq (43) states: "When we think of the long time it took before we learned of all the possible misdeeds of such common drugs as the salicylates, antipyrin, orthoform, etc., we feel more respect for the toxic sub-

stances which at present we are injecting by the vein in large doses, chasing the microbe without worrying as to the possible injurious action on the tissues."

In concluding the discussion on the effects of mercury and arsphenamin, a summary of Schamberg's (44) observations on that question will give the most concise opinion. He states that while the most damaging solutions of arsphenamin are acid solutions, milder changes have been found due to neoarsphenamin, all these changes probably being due mostly to arsenic.

Short courses of mercury in rats were productive of structural changes in the kidneys, even when the mercury was administered in a manner comparable to the old form of gradually increasing internal medication until toxic symptoms developed. When the experimental animals had been treated long enough with mercury a perivascular cell infiltration about the vessels of the brain was also noted by Kolmer and Lucke, the structural alterations in all organs being proportional to the amount of pure mercury absorbed into the blood stream.

While the arsphenamins and mercury in therapeutic doses produce structural alterations in the various organs, these changes are probably ordinarily repaired, but the kidneys especially require watching during mercurial treatment, the liver during arsphenamin. These harmful results can generally be avoided by proper care and judgment in the administration of both mercury and arsphenamin. Large doses of mercury and arsphenamin should not be used synchronously; if they are the doses of each should be inversely proportional to the other. It would be better to give mercury after the arsenic.

1541 DAVID WHITNEY BLDG.

REFERENCES

- 1—Ross and Wright—*Lancet*; 200:321—Feb. 12, 1921.
- 2—Hata—*Internat. Jour. of Public Health*; 2:354—Jul. Aug. 1921.
- 3—Ortega—*Prensa Med. Argentina*; 7:258—March 1921.
- 4—Bruusgaard—*Acta Dermato venereologica*; 1:1—1920.
- 5—Barilan and Karmin—*Prensa Med. Argentina*; 7:7—Aug. 1920.
- 6—Teysschl—*Ceska Dermat*; 2:177—1921.
- 7—Marshall—*Brit. Jour. Child. Diseases*; 208:10:57—Apr. Jun. 1921.
- 8—Wile and Halsey—*Jour. A. M. A.*; 76:8—Jan. 1921.
- 9—Nicolau—*Annales de Dermat*; 7:200—Jul. 1919.
- 10—Moore—*Arch. Dermat. and Syph.*; 5:1:55—Jul. 1921.
- 11—Solomon and Klauder—*Jour. A. M. A.*; 77:22:1701—Nov. 26, 1921.
- 12—Fordyce and Rosen—*Jour. A. M. A.*; 77:22:1676—Nov. 26, 1921.
- 13—Solomon—*Boston Med. and Surg. Jour.*; 183:723—Dec. 23, 1920.
- 14—Fraser and Duncan—*Brit. Jour. Derm. and Syph.*; 33:251—July, 1921.
- 15—Raeder—*Am. Jour. Insan.*; 76:449—Apr. 1920.
- 16—Wile—*Arch. Derm. and Syph.*; Feb. 1920, p 139; Apr. 1 1920, p 413; May 1920, p 543; Feb. 1921, pp 117-122; Apr. 1921, p 372.
- 17—Reid—*Boston Med. and Surg. Jour.*; 183:67—Jul. 15, 1920; 183:105—Jul. 22, 1920.
- 18—Audry and Chatlier—*Ann. de Dermat. et Syph.*; 7:304—Jul. 1921.
- 19—Ebersson—*Arch. Dermat. and Syph.*; 3:2:111—Feb. 1921.
- 20—Brown and Pearce—*Am. Jour. Med. Sciences*; 5:1—Jan. 1921.
- 21—Brown and Pearce—*Jour. Exp. Med.*; 2:4—Oct. 1920, p 470.
- 22—Droop—*Dermat. Zeitschr.*; 32:336—1921.
- 23—Ebersson and Engman—*Jour. A. M. A.*; 76:160—Jan. 15, 1921.
- 24—Engman and Ebersson—*Arch. Derm. and Syph.*; 3:4:370—Apr. 1921.
- 25—Hecht—*Arch. f. Derm. u. Syph.*; 126:327—1918.
- 26—Levy-Bing and Gerbay—*Medicine, Paris*; 2:130—Nov. 1920.
- 27—Lomholt—*Brit. Jour. Derm. and Syph.*; 32:353—Dec. 1920.
- 28—Sabouraud—*Presse Med.*; 28:533—Aug. 5, 1920.
- 29—Ramsay and Groebner—*Am. Jour. Dis. Child.*; 20:199—Sept. 1920.
- 30—Bastron—*Am. Jour. Med. Sciences*; 160:118—Jul. 1920.
- 31—Cole, Littman and Sollmann—*Jour. A. M. A.*; 75:1559—Dec. 4, 1920.
- 32—Kolmer and Lucke—*Arch. Derm. and Syph.*; 3:4:531—Apr. 1921.
- 33—Schamberg, Kolmer and Raiziss—*Am. Jour. Med. Sciences*; 160:125—Jul. 1920; 160:188—Aug. 1920.
- 34—Brown and Pearce—*Jour. Exp. Med.*; 33:553—May, 1921.
- 35—Mehrtens—*Jour. A. M. A.*; 76:574—Feb. 26, 1921.
- 36—Fordyce—*Arch. Derm. and Syph.*; 4:6:737.
- 37—Parounagian—*Jour. A. M. A.*; 77:22:1706—Nov. 26, 1921.
- 38—Michelson and Siperstein—*Arch. Derm. and Syph.*; 4:2:193—Aug. 1921.
- 39—Guy and Jacob—*Am. Jour. of Syph.*; 5:4:675—Oct. 1921.
- 40—Walson—*Am. Jour. Med. Sciences*; 161:3:418—March 1921.
- 41—Lochte—*Therap. Halbmonatsh.*; 34:334—June, 1920.
- 42—Chargin—*Jour. A. M. A.*; 76:1154—Apr. 23, 1921.
- 43—Brocq—*Bull. Med.*; 35:235—Feb. 26, 1921.
- 44—Schamberg—*Arch. Derm. and Syph.*; 3:4:577—Apr. 1921.

MODERN VIEWS OF CANCER*

HARRY C. SALTZSTEIN, M. D.
DETROIT, MICH.

The first generalization regarding cancer was that of Cohnheim—that tumors developed from misplaced embryonal cells. These cells, lying dormant, retain their virgin energy, and suddenly begin to grow late in life, when other body tissues have lost their growth vigor. Embryonal cells have more inherent growth tendency than any other body cells. This is as true today as it was in Cohnheim's day, and in certain types of tumors (teratoma, dermoid) embryonal misplacement is probably all important. In other types, embryonal remnants are favorite locations for malignant growth (pigmented moles, thyro-glossal, branchiogenic vestiges), and the predilection of cancer for situations where embryological structures change (e. g. lip, cardia, rectum, anus, etc.) must be related to early body development—heaping up of cells at the junction, perhaps.

Modern views must take note of the above facts, but the vast majority of tumors develop apparently irrespective of misplacements, and the mere presence of embryonal or superfluous cells does not mean that neoplasm will develop. Also, if the misplaced cells grow, they may produce finished adult tissue rather than tumor.

*From the Surgical Service of Harper Hospital. Dr. Max Ballin, Director. This resume follows the general principles of the discussion of the subject in Ewing's *Neoplastic Diseases*. Read before the Wayne County Medical Society, October 24, 1921, as part of a symposium on cancer introducing "National Cancer Week."

Of much wider application, therefore, is Ribbert's doctrine of cell autonomy—the principle that cells removed from certain growth restraints, from the forces of "tissue tension" which normally maintain growth balance, will at once start on riotous autonomous new growth.

Some of the complex forces of tissue tension, which hold the body cells in check, and the disturbance of which may allow the start of unlimited growth are:

- (1) Mechanical pressure.
- (2) Specialized function.
- (3) Nutrition.
- (4) Organization.

MECHANICAL PRESSURE

Familiar instances where the release of mechanical pressure of one cell upon another influences malignant growth are not hard to find. Encapsulation often determines whether a tumor is benign or malignant. An adenocarcinoma of the breast may be almost benign for years, and then, suddenly bursting its capsule, become wildly malignant. Trauma isolating cells from their environment is often concerned in inaugurating neoplasia. Fibrous encapsulation is Nature's defense against cancers. Experimental cancers are seen to regress with fibrous tissue encapsulation, and the same phenomenon of connective tissue enclosure of carcinomatous masses, holding them in check, is observed in man. Metastases are killed or subdued in this manner. The fibrous enclosure may break down and recurrence take place years afterward.

SPECIALIZED FUNCTION

The work of body cells is divided between growth and function. When a cell assumes a specialized function, such as secretion of gastric juice, milk, or mucus, covering the body, etc., its capacity for growth disappears. Specialized normal function is thus a restraint to growth. In most organs, there is a substratum of cells whose purpose is growth, chiefly for replacement of this secreting or otherwise specialized layer (e. g. basal cell layer of skin, cells at bases of intestinal villi, supporting cells in mammary acini, and in the prostate. Neoplasia always starts in this layer, and it is often preceded by loss of function or over-demand for growth. Thus, cancer is common in the breast and uterus at the time when the secreting epithelium of these organs atrophies. McCarty, through extensive histologic studies, has shown that the earliest change in carcinoma of the breast is disappearance of the secreting layer and hyperplasia of the supporting layer. These hyperplastic cells soon are seen in the stroma; then the demarcations between acinus and stroma are confused, and finally acinus and

stroma are indistinguishable. He has studied similar changes in cancer of the prostate, skin and stomach. The supporting cells, he traces from the embryological stratum germinativum. Their function is growth for renewal of the specialized differentiated layer. Adami similarly expresses the relationship between function and growth as follows: "Cells which have lived a long while without performing function have assumed the less active, vegetative stage. They have lost the habit of function and assumed the habit of growth."

NUTRITION

Tumor cells have an abnormal capacity to absorb nutriment. In certain instances a hormone has been supposed, or that they exerted some influence on neighboring cells. Why they can assimilate so voraciously is, however, a very obscure problem.

ORGANIZATION

Cancer has lost the control of the organism. Regeneration of a limb in a crustacean, of a new head in a worm, the development of the normal chorion, all show many features of the growth of a tumor, but in contradistinction, they have a definite purpose—they are under the control of the organism. Cancer has lost this control.

Cell groups frequently become detached from their normal habitat during pathological processes. New connective tissue growing between epithelium may snare off cells and thus isolate them. W. J. Mayo believes that the violent churning of a stomach with gastric ulcer is a very favorable procedure for isolation of epithelial cells. These cells have lost their normal restraints, and may become a nidus for the development of cancer. Round cell infiltration beneath epithelium similarly creates an abnormal environment and nullifies restraints to growth. Last spring I briefly mentioned before this Society* some of the chronic inflammatory and other irritative processes which frequently precede cancer. So many cancers follow long continued chronic irritation, that any conclusion on cancer must take note of the importance of this phenomenon. In terms of cell autonomy, these successive generations of cells, subjected to trauma repeatedly and without rest, gradually lose the body growth restraint. At some point there is disturbance of the normal rate of growth, size of nuclei and cytoplasm, blood supply, and relations to neighboring cells—an autonomous new growth develops. As a matter of fact, these stages can often be observed in early cancers, especially of the tongue or stomach.

Thus it is seen that we have very accurate

*Some Facts Regarding Cancer. Harry C. Saltzstein, American Journal of Surgery, April, 1921.

knowledge of the transformations cells undergo while developing into malignancy, and we have quite comprehensive observations regarding what processes precede this change. Why, however, they suddenly proceed to riotous overgrowth, why they break their restraints, why they suddenly invade the stroma instead of remaining confined and showing only hyperplastic changes, is still a puzzle.

The parasitic theory of tumor growth is as old as the history of medicine itself. The research and experimental work expended upon proving or disproving the parasitic nature of cancer fills libraries, and a good deal of it is quite bizarre and at a tangent from the real problem. Statistics are difficult to interpret, for, among the complex factors involved are improved diagnosis, control of infectious diseases, changing age groups, etc. Groups which have higher cancer incidence may be able to have more expert medical service, or employ physicians oftener, or may en masse escape the mortality of infectious disease in greater numbers and hence reach cancer age in greater proportion.

Since the advent of bacteriology, bacilli, cocci, spirillae, mycelia, blastomyces, yeasts, amoebae have all been cultivated from cancers. The number has been legion, and in a few instances tumors have been reproduced. Most of the tumors have been merely granulomas—hyperplastic inflammation with a tendency toward metaplastic changes, with the possibility of these passing over into tumors. Several fundamental objections have been advanced against a parasite being the sole cause of cancer, so that the problem is not quite similar to that of an infectious disease. The anatomical and physiological characteristics of tumors are different from those of any known inflammation; the isolation of cells, abnormal size (overnutrition) of nucleus, the different types of metaplasia, the progressive growth, are not seen in infectious processes. Infection produces degeneration and wasting by toxic agents. When infectious granulomata, as tuberculosis, develop emboli, the cells die, and the transported bacilli excite inflammatory processes. In cancer the transported cells grow everywhere they lodge. There must be a different parasite for each of the many different tumors. The parasite must live very closely—in symbiosis—with the cell, multiplying with the cell, being transported with it, showing no immunity reactions except as manifested by the cell—in short must be almost identical with the cell.

Though cancer will not be shown to be a parasitic disease, according to present day

views, micro-organisms, worms, yeasts, etc., may have a very definite role in the cause of cancer. Animal parasites, or their derivatives, when growing continuously in tissues have a peculiar capacity to excite proliferation. This process, once nutrition and function are permanently unbalanced, may attain sufficient momentum to continue into neoplastic growth—become autonomous by reason of release of growth restraints. The cell, however, is still the chief actor—"once the cancer has taken on active growth, the mere destruction of the parasite would not modify the properties already impressed on the cell." (Adami.)

In the lower animals, the momentum of tumor growth is more easily established than in man, and it is not so surprising that neoplasms have been apparently initiated in animals by micro-organisms. Rous developed a chicken sarcoma which could be reproduced by a filterable virus. Nuzum has recently reported some brilliant experiments, but, I think, the interpretation must be along these lines. Using the Crocker transplantable mouse carcinoma, he isolated a micrococcus similar to that recently obtained from polio-myelitis, and after cultivation on Noguchi ascitic fluid media, it grew on all laboratory media. These subcultures when injected into mice produced small tumors which regressed. If the tumors were cut into and then traumatized, the virulence of the micromommsus was multiplied. If the subculture was injected alongside a slowly growing ordinary transplanted tumor, there was marked sudden increase in growth. In this experiment, the organism was seen swarming in the tumor cells, and it does seem as if in this instance, the requirements of symbiosis—a parasite living with and within the cell, continuously stimulating it, were fulfilled. Nevertheless, as Nuzum states, as Rous stated, as all experimenters in this field have finally concluded, there are always two factors, the parasite and the cell. Alone, Nuzum's micrococcus produced only a very indolently growing tumor. The parasite was an intense irritant, which only when aided by tumor trauma, etc., produced rapidly growing neoplasms.

There is still the same enigma: Why does the cell physiology suddenly change so as to permit it to have, or endow it with, this unlimited new growth? Why, of all the cells subjected to the same chronic irritation, do only a very small percentage become neoplastic? The solution may be wrapped up in future developments of cell physiology and chemistry. (For example, cancer shows a marked predilection for acid media as stomach, uterus, colon, and is very rare in alkaline pabula, such as the small intestine.) The conclusion seems growing that

until more of these laws are learned, for any practical application, for the rationale of any cancer therapy, the sum of our knowledge is that cancer always begins locally, and only when removed then is it curable with any degree of certainty.

269 ROWENA ST.

CHAIRMAN'S ADDRESS—SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY*

G. E. WINTER, M. D.
JACKSON, MICH.

I wish to thank you for the honor of having made me chairman of your section for the past year.

I fully appreciate the responsibility and obligations placed upon me, and more especially on our worthy secretary in serving such an important section, and what appears to be the unkindness of fate in having to appear before you at this time with an address.

In searching about for a topic for this occasion one feels more or less handicapped, as an essay on any of our important subjects would seem to be more or less out of alignment for the occasion, so one has to delve on the shelves of oblivion to find a suitable topic.

In analysing medical topics among our fellows, and it has been my privilege to meet a considerable number during the past couple of months, it occurred to me there was as much interest centered in questions of the ever recurring ill omen "State Medicine" and its associated evil, the flourishing condition of our too often, illiterate, brazen and many times vicious quacks that are running wild throughout this whole country.

Now we have, I think, in a measure, learned that legislation alone is not going to hamper them in the least, for that is what they are seeking. They wish to pose as martyrs before the ever groping altar of public opinion, for then only can their cunning, timely, thoroughly organized and highly paid propagandists get in their bulls eye shots by appealing to the often misguided public mind.

How can we best meet them!

For a moment let us reflect on the outcome of such a thought. Let us consider the class of individuals we are confronting. I have no doubt our daily "Ads" would look like poor etchings compared to the work of masters of art in our press.

Suppose we do a little checking up on our own slate and reflect.

First we will touch upon the eye. Do we do

all we should to give our patients the benefit of say, due inspection of lids, sac, cornea, anterior chamber and lens? Do we look for muscle palsy and conjugate muscle movements; for accommodation and convergence, taking palpable tension, at least, in patients past middle age? Do we take, then, a general survey of fields by some suitable method, to check up on scotomata, endogenous disease, as syphilis, tuberculosis, kidney diseases, focal infection, detachments, growths, etc.? Do we look with our aphethalmoscope, more especially, in our older patients, for changes in retina and disc. Do we do our refracting as befits a thorough specialist, using mydriasis in all cases under 15 years of age, and in many of our hyperopic cases with symptoms definite up to middle age, using atropine, homatropine or hyoscine in less severe cases, following with miotics as a means of preventing the glaucoma simplex symptom.

I might say in this connection the application of the pin hole and placedo discs are of great benefit in refraction work.

The pin hole disc so important in shutting out all confusing, peripheral rays and allowing the patient to use a clear, sharp, central vision, giving us our cue to his full total vision. The placedo disc so important in corneal irregularities.

I wish also to state that the retinoscope is the great *ideal* in refraction work, both with and without mydriatics.

ANALYSIS OF HEADACHES

An inflammation in the cornea or sclera will result in sensation of pain within the eye ball—whereas inflammation of iris or ciliary region will give us sensation of pain about orbit, especially forehead, temple, ear or upper teeth.

Headache, without inflammation, would naturally suggest hypermetropic astigmatism or muscle anomaly.

In all severe headaches, examination of urine, blood pressure, and optic nerve should always be made, especially in older patients. Headaches coming on more or less severe in late afternoon or evening, with disturbances of vision and color rings, but recurring with greater frequency, disappearing with sleep in contradistinction to syphilitic headaches, beware of prodromal glaucoma.

The application of cocaine or other anæsthesia to the region of the nasal ganglion will often alleviate many aggravating symptoms about the eye and surrounding parts.

Just to digress a moment, I wish to speak of Professor Fuchs syndromes on glaucoma, (which is such a bugbear to all who do eye work) so beautifully illustrated by lantern slide demonstrations during his lecture course in Chicago the past month.

*Read at the Annual Meeting, M. S. M. S., Flint, Mich., June, 1922.

He showed first, cases of only 25 hours duration and the simile of deterioration had already left its mark.

These were carried through each stage to complete destruction of globe.

The syndrome of glaucoma simplex as related by him were: A hypermetropic eye usually smaller than normal, that is, cornea and globe.

An over-developed ciliary muscle with enlarged ciliary processes—a lens gradually increasing thirty-three and one-third per cent in size from 20 to 60 years of age—a small lenticular space with lessened anterior and posterior chamber.

An iris usually thicker, more especially at the filtration angle than normal and then an exciting cause, and the eye starts out on a toboggan to destruction. First lens angle becomes lessened or obliterated, pressing upon ciliary processes and they in turn upon root of iris, obliterating the anterior and posterior chambers and the whole anterior uveal tract with lens, comes into close or direct contact with cornea.

He also showed us many results of the different operations for glaucoma, with the result that destined the eye to the pathological ward.

He also stated that a very large per cent of trephine operations for glaucoma ultimately resulted in detachment of choroid and retina.

What a teaching lesson this would be, thrown upon the screen for public analysis.

A few demonstrations of this kind to the public, upon topics pertaining to medicine, and we need have no fears nor ask no favors.

It also teaches us to beware of this syndrome explaining it thoroughly to our patients; refract most carefully, and if we wish to save their eyes for useful purposes, begin in advance of the calamity.

Of great interest was the lesson to be learned at the scleral ring, for here instead of a large bundle of nerve fibres bending over scleral ring as in a normal eye, the pressure here had caused atrophy and only a small remnant of the once large nerve bundle was left. The nerve proper sinking back into optic sheath and atrophy, alike, developing in optic nerve as well as in retinal fibres.

OUR WORK IN OTOTOLOGY

Do we use our tuning forks as intelligently as we should, let us say the high, middle and low forks in our ear work in testing the cochlear tracts, also learning if bone conduction is greater or less than normal.

If greater, would suggest catarrhal middle ear deafness, if less, would suggest lesion of labyrinth, eighth nerve or brain stem.

To illustrate, one simple suggestion after mastoid operation the C fork over vertex would naturally lateralize to operated ear, but say things are not going well and we place fork again in same position and it lateralizes to good ear, which suggests dead labyrinth on diseased side and probably intracranial complications.

Do we just tell our patients complaining of recurring and more or less distressing vertigo that it is only some intestinal, heart, kidney or uterine disturbance and not to further heed it. Well it may be toxemia or functional, also it may be pathological and a very valuable diagnostic hint of some very serious labyrinth or brain stem trouble. These duties should never be passed over too lightly if we wish to maintain a high standing in our respective communities.

RHINOLOGY

Do we all feel satisfied we can locate all diseased areas in this very important region? True we are learning to respect the turbinates, also to correct a badly deflected septum.

Intranasal sinus infection surely plays a large part in destroying the health, comfort and sense of smell in our patients.

Are our treatments and operations all that could be wished for in these unhappy cases?

I truly do not believe so, for if we could see our patients as they find themselves after we finish with them, or they with us, we, I am sure would not always feel overjoyed with our results.

Now I have taken you over some bumpy roads, but alas we are descending into the green, velvety valley of dreamland where all is serene and tranquil.

I wish to state, however, to members of this section that even here you are not to receive any recompense for this golden gate.

Having conversed with many of you on this later topic it was few words of consolation I could get.

It has fortunately been all ironed out for you in such a satisfactory way that leaves little to be said or done.

Our abdominal brother has seen fit to ascend from the region of fat and depths of obscurity to a herculean attack upon the open gateway of "No Man's Land," and with little hesitation and less procrastination claims a success of which we could only dream.

In fact if he succeeds in getting our pillars and everything clean maintains a batting average of at least one hundred and twenty-five per cent.

Now this eliminates our best efforts and we can only hope, by groping along, to lessen if possible many of the undesirable results that follow in our wake, such as an over abundance

of scar tissue, a raw, irritable, dry throat, an attachment of anterior pillar to base of tongue and last, but not least, to look into a throat of our doing, but sometime ago forgotten, and remark: "You have a bad tonsil on this or that side that needs removal, or some darned fool has done a rotten job on your throat," for that ever present bugbear infiltrating, lymphatic tissue is ever ready to spring up and spoil one of our prize dissections.

It is to be hoped that from the able research work being carried on by so many capable men, something definitely good may result.

We still have focal infections from teeth to consider in all intranasal and eye inflammations and here is where the X-Ray will do us great good without which we could not do.

It has been my lot on more than one occasion, after an examination, to refer the patient to the rentgenologist and dentist and expect later to enjoy some of the bacon, to have the patient return and say: "Well, Doc, I am all fine now," and wish me many thanks, so now I have added a thanks account in my ledger.

Yet I have one grand and glorious feeling in knowing that the X-Ray man and dentist will have to help me solve my income tax problem.

It was my good fortune to be in Chicago during the time of Illinois State Society meeting, where they have inaugurated a post graduate clinical program lasting five days.

The first two days being devoted to eye subjects, the next day to papers, discussions and business meetings, and the last two days to ear, nose and throat topics.

Through the efforts of its excellent and energetic chairman, Dr. A. H. Andrews, this course was arranged with splendid papers and lantern slide demonstrations in the morning from 8 to 12, while the afternoon was devoted to clinics at the different hospitals.

In all details it was a snappy, highly instructive, well attended and thoroughly appreciated clinical course and could be well modelled after by many of our states. This has been now arranged as an annual affair with a special fee of \$3 per member.

My one object in this paper was to see if the time was not ripe for this body to discuss and consider the advisability of doing more and better post graduate work, for it is only by elevating the standard of the society as a whole, that we will accomplish anything worth while, for the public daily are demanding better work from us and when we can say we have finally put that across we need have no fear from each other, the public, the press or any pathy.

DISCUSSION

DR. WILFRID HAUGHEY, Battle Creek: I think postgraduate work is a good thing, but in many places it could not be handled. In Battle Creek it would hustle us, although we could do it.

But in small cities the size of Muskegon, Jackson and Battle Creek it is apt to be difficult to work up interest and enough clinical material to last three or four days.

DR. HOWARD E. PEIRCE, Detroit: Two years ago after the meeting I tried to get a list of the men who had registered in the Eye, Ear, Nose and Throat Section, but it was impossible to get it. I have tried to keep a list of the men attending, but that does not tell us whether a man is specially interested in this section or whether he has just dropped in. When the general call is sent out for papers in any section there are papers offered, but it is a question whether the man is specially interested in this section or not. It would help the new secretary very much if we had a definite list of the men who are vitally interested in this subject.

Another thing that would add to the interest of the section is this: We have one or two visitors each year, and these visitors necessarily are offered their expenses. The State Society is in such financial condition that every section must pay their own way, and it means an expense of some \$40 to \$50 every year for railroad fare of the guest, lanterns and things of that kind, so a small contribution of say one dollar would take care of that very nicely.

DR. G. E. WINTER: Last winter the Wayne County Society started something—they procured Doctor Fletcher of Philadelphia to give a course of ten or eleven days. Many of us from over the state went down to Detroit and stayed during the entire time of that course, and we got some very valuable information. We do not need to put on a course like the one I spoke of in Chicago, because that would be impossible except in places like Ann Arbor or Detroit. Prof. Fuchs came to this country through the efforts of Dr. Brown of Chicago and Dr. Knapp of New York. These two men arranged all the courses he gave. If we had had a strong organization in this society, he would have come to Detroit.

DR. B. N. COLVER, Battle Creek: It seems to me the chairman has mentioned three important points. This section is rather loosely organized because we get together for two or three days, and the rest of the year we hear from each other only sporadically. But we ought to be organized in some sort of way so that we could co-operate, possibly through the largest organization in this state, the Detroit Oto-Laryngological Society, and in that way the men in the smaller places would get in touch with each other through a central organization. It seems to me it is worth while considering. The question of raising the money is easy.

The second point is the question of post-graduate work. That could be worked out through this organization itself in co-operation with the Detroit group and the Ann Arbor group. It might be done by bringing one nationally known man each year and having a definite course.

The third point is one which he mentions as a menace to our specialty—the quacks and irregular practitioners of different sorts. It seems to me the answer to that question is higher standards among ourselves, plus education of the proper sort, and the way to make that education of the proper sort is for all of us to join in an educational campaign. Then we cannot say that any man is exploiting himself. We are exploiting the truth, and the truth is that the well-trained person is the only one who should be allowed to take care of the sick people of a community. There must be something basically wrong with us and our relations towards each other and towards the people, or they would not wander away from us.

DR. ALBERT E. BERNSTEIN, Detroit: With reference to quacks, the question is, What do you call a quack? I take it that a man who practices a specialty of this kind, who puts himself out as a specialist without adequate training is quite

as much of a quack as the man who advertises boldly in the newspapers. A man who proclaims himself a specialist on the basis of a six weeks' course is to my mind not far removed from an ordinary quack.

I know it is utterly impossible for such a society as this, which is open to everybody, to make any limits, but it does seem to me proper and meet in these days of higher education and better education that we should try to set some limits as to what should be required before a man can be an eye, ear, nose and throat specialist. Certainly those of us who have given year after year and then do not claim to know it all—we must hold up our hands in astonishment when a man comes back after a six weeks' course and proclaims himself a full-fledged specialist. It seems to me some movement should be started to set the least possible time required to make a specialist. The American Academy sets a limit of one year, which is small enough.

DR. DON M. CAMPBELL, Detroit: It seems to me the question of the relationship to the public is rather too broad to be handled by a local organization or a state society. In a number of specialties the limit has been taken up by national societies and they have set certain standards which a man must reach before he is recognized and admitted to membership in the society. In other words, there has been established, as you know, a degree in Ophthalmology, and there is a movement on foot to establish another such degree in Oto-Laryngology. So it seems to me that while we might help the profession along, it is not our function to establish such a local situation in the state, inasmuch as it is being taken care of in a more comprehensive way by national societies.

Doctor Colver spoke of our contact with the public. It has always seemed to me that the trouble is with ourselves. The public is ready to accept anything that is presented in the proper way, but that is an individual matter—our relation to our patients must be of a more intimate character, and that is a thing every man must take care of for himself.

The post-graduate idea is also one which the American Academy took up at its last meeting in Philadelphia and gave a most successful post-graduate course. I was impressed with this—that what the men wanted most was not altogether a clinical proposition. There are many problems in ophthalmology and oto-laryngology that can be presented to a body of willing listeners—problems that are not clinical in character, that do not demand a large number of clinical patients to demonstrate, so this idea of giving a clinical appendage to our meetings of this section need not be limited by the fact that this society does not always meet in the larger cities. It could be devoted to the discussion of problems that are technical in character, but do not need the setting of a large hospital. For instance, the question of bacteriology and ophthalmology, the question of the X-ray phase—ordinary, everyday problems that come to the practitioner of ophthalmology can be presented in such a way in the small cities as well as the larger. So it seems to me that this post-graduate idea could be worked out very easily and would add greatly to the interest of the meetings.

THE BLIND SPOT*

HARRY S. GRADLE, M. D.
CHICAGO, ILL.

The blind spot has been arousing quite a bit of interest recently, because of the increased

diagnostic value of this rather important physiologic function. It was first described by Mariotte in 1668 and excited enormous discussion at that time, but no value was attached to it from a diagnostic standpoint until the time of von Graefe. From 1880 to 1890 sporadic work was done, but accurate measurements were not carried out; in fact, no work of any importance until the introduction of the Bjerrum screen in 1902. Since that time blind spot measurements have been carried out more accurately than in the past.

Accurate measurement of the blind spot requires, first of all, a screen, not too close to the patient, because there is a certain amount of retinal drag. If the distance between the screen and the patient is too small the measurement is not accurate. On the other hand, if the distance is too great the importance of the semi-blind zone surrounding the blind spot is exaggerated so we do not receive a proper concept of the size of the spot. About 60 to 75 c. m. is the best distance for accurate measurement. The size of the object used depends upon the visual acuity of the patient as well as many other factors. I have found the magnet scotometer devised six or eight years ago to be a satisfactory method of measurement. This consists of a wire-wound iron ring, a solenoid, the face of which is covered with celluloid in order to form a screen, and which is marked off posteriorly in centimetre squares. There are two iron arms against the posterior surface of the celluloid which have double action joints so they can be moved any place over the screen. These hold steel balls against the anterior surface. One is used for fixation and the other furnishes a target by which the blind spot is measured. The patient's eye is 60 c. m. distant from the anterior surface of the screen. As soon as the target rolls out of the patient's view, instead of notifying by word of mouth he presses a button, flashing a minute light behind the screen. In that way we have a more accurate measure of the blind spot than by any other scotometer devised. The readings are taken down by an attendant and transferred to cross-section paper.

The blind spot should always be measured from without inward. It has been advocated to pass the target from the center of fixation outward through the blind spot but this has a tendency to displace the area in question. Again, the size of the blind spot will vary according to whether the target passes from seeing retina into the blind area, or from the blind area onto the seeing retina. The latter yields the larger measurement because of slowness of retinal response.

Following are the measurements of the blind spot based on a large series of cases measured

*Read at Annual Meeting, M. S. M. S., Flint, Mich., June, 1922.

with the scotometer, but these do not agree with the measurements given by previous authorities either from a comparative basis or by actual measurement. The blind spot will vary in each individual. Many things influence this and consequently a composite is necessary. The exact center lies $17^{\circ} 13'$ from the point of fixation. The internal border (nearest the point of fixation) is 13° , and the external border 18° . The horizontal diameter is $4^{\circ} 54'$. This corresponds with various measurements by different men, some giving it as low as $3\frac{1}{2}^{\circ}$. The vertical diameter of the blind spot is greater than the horizontal because the discs are more oval than round.

A perfectly normal blind spot may vary greatly from the composite measurements given above. In hyperopia, the blind spot is naturally a considerable bit smaller than the normal, exactly as in myopia, it is larger, varying with the degree of the myopia and with the degree of the peripapillary atrophy. The average lies somewhat below the median line, but an equally normal blind spot may bisect the median line or may even have the greatest bulk above it. The outlines of the blind spot are seldom regular any more than the average normal disc is perfectly regular in outline, especially when seen microscopically. Irregular branches may project representing the vessels as they leave the disc and pass over the seeing retina. The degree of these outshoots varies with the thickness of the vessels, the amount of blood they contain, whether they are accompanied by glia or connective tissue and with the sensitiveness of the underlying retina. Some cases are more marked than others. From the ophthalmoscopic appearance it is impossible to determine *a priori* which blind spots will show the vessel prolongations.

Let us determine what the blind spot is and what factors come into the formation of the blind spot and how these factors can be influenced. The optic nerve extends from the eyeball approximately 85 mm. back to the chiasm. The anterior 20 mm. is vascularized by the central artery and vein of the retina. The following 30 mm. constitute the avascular portion. The intracanalicular part is 15 mm. long and from the posterior end it is about 20 mm. more to the chiasm. The nerve is surrounded by the three meninges, except in the intracanalicular portion where the dura merges with the periosteum that lines the orbit, a point of supreme importance. Starting just behind the anterior vascular portion, small venules come from the meningeal sheaths and pass through the substance of the nerve, finally uniting to form the central vein of Kuhnt and Vossius which attains its maximum diameter in the posterior part of the intracanalicular

portion of the nerve and finally pours into the cavernous sinus. The drainage of the entire periosteum of the orbit is toward the rear and eventually a large share of it comes through the venules of the dura-periosteum through the substance of the nerve into the central vein.

There are two sections of the nerve that are of import, that can be measured accurately. One is the papillomacular bundle. This enters the optic nerve forming a triangle, occupying approximately one-third of the diameter of the nerve and extending from the periphery to a sharp point in the center. Back of the avascular portion of the nerve after the exit of the vessels has taken place, the papillomacular bundle recedes from the periphery and becomes smaller and rounder. In the intracanalicular portion the nerve is slightly flattened and the position of the papillomacular bundle is again shown as an irregular crescent lying around the central vein of Kuhnt. The fibres from the retina immediately around the disc according to Fuchs, follow the periphery of the nerve clear back and in a position like this the outermost parts would be occupied by the peri-papillary fibres. What does this mean? This is the portion of the nerve that is most easily involved. Suppose we have an inflammatory condition of the adjacent structures, the posterior accessory sinuses, so that the lymphatic spaces projected along the periosteum engorge the small venules that come into the central vein. We then could have a stasis with oedema. If the oedema is within the optic nerve canal surrounding the nerve itself and making pressure, the first fibres to be involved would be those on the extreme periphery of the nerve. These are the peripapillary fibres and there would result an enlargement of the blind spot. If the oedema were around the central vein of Kuhnt the first pressure would be exerted upon the most delicate fibres, the papillomacular bundle, and we would have a central scotoma. Then again, if we had oedema sufficient to cause pressure both at the periphery and center, we would have complete amaurosis. In the mild cases we have a peripheric oedema of the nerve; in more severe cases we have oedema around the central vein of Kuhnt manifested by a central scotoma; in the most severe cases we have an oedema causing pressure on the entire nerve. Although it is not definitely proven, the probability is that it is purely oedematous pressure.

In what conditions is the blind spot of value? There are several pathological conditions where we need accurate measurement of the blind spots for diagnosis. Back in 1902 Cantonnet said the blind spot might be of prognostic value in myopia. In all probability he is correct in severe forms. In a case with a myopia of ten

or twelve diopters we watched the symptom Cantonnet described, the advance of the internal border of the blind spot toward the point of fixation. In other words, the destruction of the retina towards the macula extending from the disc out. Although the figures are not sufficiently large to determine accurately, still I believe that in certain forms of malignant myopia we can make a prognosis based upon whether or not the internal border of the blind spot advances toward the point of fixation.

Of course in retrobulbar neuritis the blind spot is of great value. This has been known for quite a while, but was brought out forcibly in 1911 by van der Hoeve, who reported many cases in which the most noticeable manifestation was irregular enlargement of the blind spot. He further said that practically every case of ethmoid and sphenoid disease showed enlargement of the blind spot, and that retrobulbar neuritis with enlargement of the blind spot was sufficiently diagnostic to justify drainage of the posterior cavities of the nose. Although there may be no apparent disease showing in the nose, there may be a hyperplastic condition within the posterior cells manifesting itself by the enlargement of the blind spot due to pressure.

Formerly it was believed that the blind spot was enlarged in cases of medullated nerve fibres within the retina. This statement was first disputed by Landolt, who did not find the blind spot corresponding to the picture. In a series of eight cases of medullated fibres I found that in only one of the entire number was there anywhere near a correspondence of the size of the blind spot to the ophthalmoscopic picture of the medullated fibres. The medullated fibres as seen in the ophthalmoscope present a white appearance which would not seem to be penetrable; but if sufficient light penetrates through the periphery to these fibres, the blind spot does not correspond to the ophthalmoscopic picture.

In what conditions is the blind spot valuable? The enlargement of the blind spot in glaucoma has been considered pathognomonic. I do not believe it exists in every case, and I do not believe it appears sufficiently early to be of value unless measured very accurately. In retrobulbar neuritis we have had many cases in which the location and measurement of the blind spot was of great value. In malignant myopia a prognostic value may be attached to the blind spot measurements if carried out accurately.

DISCUSSION

DR. HAROLD WILSON, Detroit: Those of us who had the pleasure of hearing Colonel Elliott in Washington recently got the impression that a considerable value was attached to this enlargement of the blind spot as a means of diagnosis in the early stages of glaucoma. That would seem

to correspond with the anatomical and physiological factors upon which the existence of the blind spot depends, namely the discharge of periodic quantities of optic nerve fibres from within the optic nerve border, from the edge of the scleral ring, into the eye and straight out upon the retina. It would seem most natural and most in accord with the anatomy and physiology, that changes in the pressure, either interocular or pressure due to the mis-relation or degeneration of structures around the optic nerve, would lead to some changes in the fibres which pass from this point. We all know that that edge is fairly sharp and that these fibres are very delicate, and that pressure upon them, either from oedema in their neighborhood or interocular, would mean some alteration of their structure and also of their tonus.

There has been a question whether the precise changes which Colonel Elliott described are legitimate evidence, or whether they are obviously in error. I hardly think that question can be determined until instrumental matters are more standardized. The methods of examination which Doctor Gradle employs and those which are employed by Colonel Elliott would lead to certain changes in the shape of the blind spot as recorded upon the charts.

It seems to me that one of the fundamental difficulties which ophthalmologists and otologists make in their measurement of certain normal and abnormal functions of the organs with which they are concerned, is their lack of preparation for the work by the study of methods in a psycho-physical laboratory. The measurement of the visual function depends largely upon subjective answers from the patient, and we rather omit to study the fundamental changes upon which observations of that sort should be conducted. I am not meaning to say that all those who examine so delicate a matter as the function of the retina should be both physiologists and psychologists, but if they would take some training in the methods of a psycho-physical laboratory greater uniformity in results would be secured.

There are two methods of examining the blind spot—one of which proceeds along radial lines, using the blind spot as the center of measurement—that is, the lines extending from the blind spot upward and from the external portion of the field inward; and another method which enters the blind spot along circular lines of which the point of fixation may be the center. It is perfectly obvious that there is a difference in retinal lag, and consequently the size of the blind spot depends on whether the test object goes from without the blind spot into it, or from within out. In a method like the circular method in which the circular movements pass from without in and from within out, there will be some difference in size of the recorded blind spot, as well as shape. Personally, I think it makes no particular difference except it the matter of comparing charts, which method is used. The question is not so much to produce the boundary lines of the blind spot, as its general relations to its fellow. I do not suppose we will ever come to the point where we will use identical instruments for anything, but if we did I do not think this question that has been raised in regard to the difference in the periosteum of your spot depending upon the direction of your test object, will be of any importance whatever. The chief thing is a method which is reasonably accurate and reasonably rapid. It is necessary in the clinical practice of medicine to do things in a different way from experimental and research methods. It is absurd to insist upon a small error in a condition in which a large error is quite permissible. The same thing is true in regard to the recording of visual acuity and the ordinary perimetric examination. The thing is to decide first, what element of error is permissible in our examinations, and then having that understood make no limit in

accuracy beyond what is inherent in our methods and our instrumental apparatus.

My feeling in regard to the value of blind spot determination in general is this—that in a certain class of cases—in cases of suspected sphenoidal and ethmoidal infection, in cases of glaucoma perhaps more particularly than in any other class of cases, the examination of the blind spot will be of service; but I do not think that anyone who has spent even as much time as Doctor Gradle has on it would claim that it is any more than an additional method to assist us in clinical diagnosis.

DR. WALTER R. PARKER, Detroit: I wish first to express my appreciation to Doctor Gradle for his coming here to present this rather difficult subject.

In practically any tangential chart, whether for blind spot or paracentral scotoma, I think it is essential to state on the chart whether the target was moved in or moved out. We are now doing that as a routine matter. Whoever takes the field has to state this fact.

I am particularly interested in the explanation of the various forms of the lines of central vision through pressure in the canal. This of course has not yet been proven, and the question of a general toxemia is still playing an important part and the possibility of solvent action on the papillomacular bundle.

DR. HARRY S. GRADLE, (closing): The possibilities of the blind spot from both the experimental and theoretical standpoints are great. I agree absolutely with Doctor Wilson that it is merely an addition to our diagnostic armamentarium, and that alone it is not enough to make a diagnosis of anything. For example, Ergesheimer a few years ago claimed that every scotoma, no matter where located, and that every contraction of the visual field, was connected with the blind spot by a blind area. He made his measurements radially. I think he has modified his ideas considerably by this time.

The remarks of Doctor Walker are very pertinent. In any measurement on the tangential screen there are several important factors. You must know the exact distance of the screen from the patient, you must know the size of the target, you must know the direction in which the target is used, unless you always use it from the periphery to the center. But these measurements must be done day after day if your charts are of any value. Absolute measurement of the visual field or blind spot is not worth much; it is the comparative measurements every day and under identical conditions. You must have the identical apparatus, the same methods of measurement, and the same power of illumination. If you do this, your comparative measurements are of some value.

TUBERCULOSIS LARYNGITIS*

B. R. SHURLY, M. D.
DETROIT, MICH.

Laryngeal tuberculosis may be classified within proper limitations as a curable disease. Its special study and care belong strictly to the laryngologist, although the modern trend of treatment removes the patient from the office to the sanatorium, the early recognition and treatment deserve special consideration.

It is estimated that one-seventh to one-ninth of our population succumb to tuberculosis and

that 10 per cent of the pulmonary cases show involvement to the larynx.

It is just as important and necessary that the laryngeal lesions be recognized early as those developing in the lungs.

It is true that after many years of scientific research, and stupendous work, volumes of literature, wonderful leaders in medical thought and organization, we are today without a specific for this disease, yet patient, conscientious endeavor will produce an improvement in results.

During these two decades medical opinion and organization, not facts, have launched such an anti-limatic howl and propaganda that thousands of cases have been deprived of these additional benefits to arrest and cure, proper climate for the proper laryngeal or pulmonary case affords. Opinions and general statements unsupported by facts are not only valueless, but very dangerous in medicine. The genuine test of therapeutics in tuberculosis is not what you and I may think or believe, but the test of time and results ten years after treatment. Is the patient alive or dead? Are tubercle bacilli remaining in the sputum? Has the lesion or the voice returned?

I believe that the therapeutic indications for climatic treatment of tuberculosis are as definite, important, and limited as in any other disease. There is no patient given more or worse advice, yet few are so hopeful. The tuberculosis societies, boards of health, and public press have been extravagant with instruction and information that the laity feel that this is a disease they know how to treat and every patient becomes the public property of the laity.

The laryngeal complications may develop slowly or suddenly take on mixed infection and break down with surprising rapidity. Six months to two years or more of patient treatment are often necessary to produce satisfactory results. Focal reactions to tuberculin may be observed in the larynx. No case of pulmonary disease can be considered as examined until the larynx has been observed in detail as neither pain nor hoarseness are necessarily attending early lesions. It is true that nearly all laryngeal invasion occurs in open cases or after ulceration in the lung has occurred. The contact with sputum is greatest in the posterior portion of the larynx where infection is most common.

The first symptom is usually partial or complete aphonia. This may be transient or repeated, but requires a careful examination of the larynx and chest. It may be sudden and disappear with clearing the throat. These cases with slight pulmonary lesion usually seek a laryngologist. This first sign may be associated with a simple laryngitis or be due to mechanical interference in the cords from infiltra-

*Read at Annual Meeting, M. S. M. S., Flint, Mich., June, 1922.

tion in the interarytenoid space or to simple cedema. Infiltration of the *cords* will produce a change in vocalization as well as a viscid tenaceous mucous or the voice may resonate in a breaking or weak quality. A feeling of a lump in the throat while usually a neurosis may note the onset of a lesion of the epiglottis. Dysphagia or reflex to the base of the tongue, to the ear or lateral walls of the pharynx accompanies ulceration. It becomes excruciating like hot coals of fire with each breath or attempt at swallowing when extensive ulceration follows. Sprays of cocaine 2 per cent before eating, afford relief at this time.

The differential diagnosis must consider the pathology of this condition under four divisions with attending symptoms. Anemia, hyperemia, infiltration and ulceration.

Anemia of the mucous membrane includes an early change in the earliest stage of infection. An intense pallor may appear in the cords, ventricular bands, epiglottis or neighboring structures as well as those over the entire laryngeal image. A few dilated capillaries may be seen over one or both cords. According to Coakley engorged blood vessels with an extremely pale mucous membrane in the region of the vocal process and in the presence of a pulmonary lesion is pathognomonic of an early lesion. As many pulmonary cases exhibit an intense general pallor of secondary anaemia in other mucous membranes it would seem to me that the significance of this sign was overstated.

Some rapid cases show hyperaemia as the earliest observation which are quite resistant to treatment and go on to quick infiltration and ulceration.

The early condition of round cell infiltration with the formation of giant cells is the ordinary pathologic change. The membrane may be corrugated about the posterior commissure and between the arytenoids. It may appear as a tumor, even obstructive and producing dysphonia. The early appearance of infiltration on one or both cords is usual, later with oedema and a pale translucent appearance. This is contrary to the hyperaemic picture of syphilis or acute inflammation. This process may extend to the ventricular bands, the aryepiglottic folds and the epiglottis. Ulceration appears sooner or later in all progress casts, first as one or more superficial ulcers, coalescing and giving a house nibble appearance. The scrapings may show tubercle bacilli. Increase in ulceration may lead to rapid destruction of a cord, perichondritis and ankylosis. Necrosis and abscess of the neck may occur before a fatal termination.

The four diseases accompanied by infiltration and ulceration are tuberculosis, syphilis,

carcinoma and lupus. In addition differentiation must be made from pachydermia, chronic laryngitis, papilloma and other beginning tumors and rhinoscleroma.

The prognosis is directly in proportion to the pulmonary involvement and the resistance thereto. Slight infiltration or ulceration offers a good prognosis. Cases with pain and complete aphonia are proportionately depressed or the nutrition suffers and the prognosis becomes grave.

The diagnosis may be difficult where the pulmonary lesion is slight and only initial changes have begun. Hoarseness is a common symptom but may occur as a simple laryngitis. Relaxed cords or slight difficulty in movements may appear with early irritation of the laryngeal nerves. Huskiness may be due to excessive secretion only. Pain radiating to the ear may appear early. Painful deglutition occurs in the ulcerative process, especially of the epiglottis or ventricle. Cough is often distressing and characteristic of a laryngeal lesion. Obstruction to respiration occasionally requires tracheotomy.

The mistake is often made of diagnosing all affections of the larynx in the presence of pulmonary tuberculosis as tuberculosis.

According to Pottenger a diagnostic aid may be found in tuberculin 1-5 mg. Observations of the larynx and temperature should be conducted for two days previously and for 36 hours subsequent to injection.

Treatment may be classified as prophylactic, hygienic, climatic, specific, symptomatic, local, surgical and general. There is a popular belief among the laity that so-called catarrhal affections of the nose, throat and larynx lead to tuberculosis. It is exceedingly difficult to prove the scientific truth or falsity of this assertion.

The prophylactic treatment of this affection is grouped around our conception of that which will best promote immunity. This involves the problem of the fight against infection and the predisposing factors of heredity.

Prophylactic treatment is particularly the field of the family physician, who becomes necessarily a student of a predisposed individual. If the treatment by fresh air, sunlight, forced feeding, and carefully directed exercise has any curative value during the progress of the disease it must in all certainty have untold value along prophylactic lines.

Children who bear the earmarks of tubercular heredity, who are exposed at home to infection, and who show well defined signs of latent danger, should receive the timely advice of the family physician as to occupation, habits of life, diet and general hygiene. It is recognized that the difficulties of good results are ex-

tremely numerous among a class of individuals who take unkindly to discipline; but the problems of prevention cannot be solved without early diagnosis by the medical profession and painstaking care of the subjects under exposure.

The hygienic treatment requires proper clothing, sufficient, but not too frequent bathing, digestible and nourishing food, out-of-door life with properly ventilated or open-air sleeping apartments. Coal gas, air laden with organic matter, as found in our cheap theaters and public halls, the use of tobacco, ice, and alcoholic drinks are irritating to these lesions. The use of the voice in laryngeal phthisis should be prohibited or moderated. The rule of rest or exercise is as important in laryngeal involvement as in the pulmonary varieties.

The influence of climate is well recognized by the profession and laity. In laryngeal infections that complicate a far advanced pulmonary involvement advice to remain at home is much more valuable than a recommendation to seek some indefinite place in the western country. Far advanced tuberculosis should be fought at home, and no patient should be allowed to seek new environment without sufficient financial resources. Usually a warm, moist climate improves the inflammatory and catarrhal condition of the larynx, but as the pulmonary lesions do better in a dry, warm climate with altitude it is advisable to study the condition, and, when possible, recommend sanatorium treatment in New Mexico, Arizona, or selected parts of Southern California. It is essential that medical supervision should be obtained for each patient, and the family physician or specialist who firmly believes that climatic treatment offers for his special patient something of genuine benefit should direct him with great care to some competent practitioner or chief of a sanatorium in the region especially indicated. When the local lesion is in the early stage, these patients do well at a considerable altitude (6,000 feet).

Many cases under careful supervision improve satisfactorily in the lower altitudes—below three thousand feet. Discomfort and distress are increased during the wind and dust storms of some of our favorite southwestern resorts.

Some remarkable arrests and cures have been obtained among laryngeal and pulmonary patients sent to an altitude such as Silver City, New Mexico, about six thousand feet. In this region the altitude is played against the latitude, resulting in cool or cold nights with warm or hot days.

Patients with tuberculosis of the upper air tract without much pulmonary involvement will improve and obtain great comfort from an

ocean voyage to the Riviera or Egypt.

The numerous specifics that have been brought forward from time to time for the cure of the various forms of tuberculosis have failed to establish the claims made for them. Skepticism and therapeutic nihilism are unjustifiable, however, as usefulness may be found for many of the remedies, in selected cases. Unfavorable results in therapeutic procedure in tuberculosis of the upper tract are largely due to the fact that many of these manifestations, and the laryngeal form in particular, are almost invariably attended by pulmonary infection of more or less virulence. In a large experience during twenty years the writer has not seen a case of primary laryngeal tuberculosis in clinic or private practice.

Among the modern so-called specifics may be mentioned tuberculin in various forms, with or without vaccines, sera and anti-toxins, iodine, chloride of gold and sodium, creosote, formalin, oil of cloves and nuclein. In addition may be mentioned the X-Ray and radium.

While brilliant results have been obtained when these sera or drugs were used the test of time has proved their failure. It is very important to differentiate between tubercular, chronic and syphilitic laryngitis, before a definite plan of treatment is adopted.

Tuberculin, the double-edged sword, stands out pre-eminently as one of the useful remedies discovered up to the present time. The selection of the dose, a study of the individual, a most watchful care of the patient, and careful attention to the rules of administration are essential to successful treatment. Pottenger claims that we have manifest evidence of its value in tuberculous laryngitis, where in small infiltration and even ulceration great improvement and cure may be looked for in a large percentage of cases. Trudeau advances important rules for consideration. He advises a minute dose of 1/10,000 or 1/20,000 of a milligram of the solid substance of Koch's bacillen emulsion or 1/1,000 of a milligram of old tuberculin, increased very gradually, and at intervals that will produce as little disturbance as possible. At the slightest evidence of intolerance such as irritation at the site of injection or slight temperature reaction, the interval should be lengthened and the dose diminished. No injection should be given for some days following a reaction. It is necessary to have the patient under observation for at least six months if this treatment is commenced.

In the writer's experience many cases have been favorably influenced by the use of Deny's filtrate (B. F.) beginning with 1/50,000 or 1/100,000 of a milligram and increasing with extreme care at weekly or bi-weekly intervals to avoid every possibility of a reaction. Failure

comes from "beginning treatment with too large amounts; raising the dose too rapidly or at too short intervals; repeating the dose before all effects of a reaction have passed; increasing a dose after a reaction; neglecting malaise, headache, anorexia increased temperature, cough and expectoration as indication of a limit of tolerance." When a reaction occurs or when anemia is associated with the tuberculous lesions valuable assistance during the interval may be obtained by the hypodermic use of the green citrate of iron (gm. 0.05) and sodium arsenate (gm. 0.001). This method of medication saves a delicate digestive apparatus for other usefulness, and affords a stimulating and reconstructive treatment of great and quite unrecognized value.

In cases mixed with syphilitic infection mercury and iodine will furnish the best results. The biniodid of mercury (gr. 1), potassium iodid ($\frac{1}{2}$ oz.), cinnamon water, and distilled water (2 ozs.) each in teaspoonful doses three times a day, will promote a startling effect in properly selected cases. Its administration in lesions of strictly tuberculous type is often detrimental and contraindicated. The use of phosphorous (gr. 1/100) in ten to fifteen minims of olive oil in capsule is beneficial in the more chronic cases. It should be given after a full meal and promptly discontinued if irritation of the stomach, urticarious eruption, or aphrodisiac effects follow its use. Symptomatic remedies are necessary to allay cough, temperature, pain, diarrhea and mental distress from time to time. Heroin (gr. 1/12) or codein (gr. 1/8-1/6) are efficient drugs to relieve the irritation of the larynx. They should be administered with caution and not until decidedly indicated. Aspirin, guaiacol, and quinine will control temperature when necessary. If alcohol is demanded the malt beverages and preparations other than spirituous are preferable. Rectified spirits in milk is better than whiskey, brandy or rum. While in diarrhea and pain opium or morphin may be necessary, although their use should be postponed as long as possible. Sleep may be secured by veronal or trional if absolutely indicated.

The prescribing of depressing drugs should be withheld from patients that offer a hope of cure, as the resistance may be undermined by the prostration, interference with elimination and normal digestion that attend their constant use.

The local treatment consists of the inhalation of gases or medicated air in sprays or powders and the application of drugs to the affected region. Among the many ingenious methods of local therapy that have been advocated from time to time, a few useful palliatives may be

mentioned. Reference may be made to some special text book if the complete list is desired.

Before treatment is administered, a spray of Dobell's solution may be used to remove secretions from the larynx. The application of formalin 3% in glycerine in gradually increasing strength is pre-eminently the most beneficial remedy. It should be prepared daily from a 40% solution. Until the tolerance of the larynx is obtained the pigment may be used in $\frac{1}{2}$ % strength, increasing to 1 and gradually to 10%. Two per cent cocaine may be used if much pain is encountered. The preparation of Lake combines formalin (7%) lactic acid (50%), glycerin (20%), water (to 100%). The application of lactic acid (20%) is a favorite with many laryngologists. Iodoform insufflation is recommended highly by the older laryngologists. Orthoform and anesthetic are used for the relief of pain.

Freudenthal highly recommends fulguration for the cure of ulcerated areas. Argyrol 20% is an acceptable substitute when irritation follows the use of formalin, lactic, nitric, or hydrochloric acid. Intra-laryngeal injections of guaiacol 2½% menthol and camphor (aa gr. 2) in olive oil are often beneficial in the relief of pain and cough. Deep injections of alcohol into the region of the nerves may be used to allay pain. The use of the X-Ray is followed by dangerous reactions.

When these measures are not sufficient to modify or allay the ravages of the disease, surgical intervention may be required. The lesions affecting the epiglottis may be removed by epiglottectomy as practiced by Lochard of Denver.

Curettage has been employed to remove the tubercular deposits. It is possible, however, to remove only a small portion of pathologic tissue by this method. It is advisable only in selected cases where other methods have failed.

When deglutition becomes very painful a spray of cocaine 10% before meals is justifiable. The Wolfenden position may be assumed with additional comfort in swallowing. The head is hung over the bed and the liquid drawn through a tube from the glass upon the floor. In this manner the patient drinks like a horse.

Laryngectomy, thyrotomy, or tracheotomy are rarely indicated in this disease. In the late ulcerative stage it may be necessary to administer an occasional small dose of morphine hypodermically. Constitutional treatment may be of advantage in the earlier stages, in the form of cod liver oil, malt, hypophosphites, or creosote.

The treatment of this disease may be carried on most satisfactorily in a sanatorium where daily supervision and care are possible.

At the Detroit Tuberculosis Sanatorium during a period of ten years, laryngeal invasion appeared in from 8 to 15% of all cases. The general treatment of the patient and his pulmonary lesion is of such importance that success is dependent on the most elaborate provision for rest, diet, fresh air, nursing and medical care. Climatic treatment in addition affords 20% more arrests. Bullock of Silver City, New Mexico, reports an increasing number of arrested pulmonary and laryngeal cases over a period of twenty years. Topical applications and sprays were given during the first five years. The galvano Cautery during the second; rest and formalin during the third and sunlight and rest during the last five years with 50% improved and recovered. These results in a number of cases that I personally observed lead me to believe that they are the best to be obtained at the present time.

CONCLUSIONS

During a period of 25 years I have labored patiently to improve results in this most discouraging class of cases and am convinced of certain definite facts.

First—That much harm may be done by over treating the tuberculous larynx with irritating and frequently used sprays and applications.

Second—That the general care of the patient and a carefully detailed program in a sanatorium are essential and more important than in the purely pulmonary form.

Third—That if financial conditions will not allow climatic advantages a compromise must be made that will include bed rest, voice rest, proper diet and applications of 3% formalin in glycerine at regular intervals, with light therapy.

Fourth—That rest and the direct sun treatment or modified light therapy will afford the best results.

Fifth—That orthoform emulsion or insufflation with 85% alcohol injection into the superior laryngeal nerve offer the best relief for pain.

Sixth—That X-Ray therapy is disastrous and will often do great harm.

Seventh—The removal of the ulcerated epiglottis is attended by great improvement and relief of pain.

Eighth—That the method of Forster providing for the daily sun or light treatment to the larynx by the patient is a decided advance in therapy.

Ninth—As laryngeal tuberculosis is present in 10% or more of all adults suffering from pulmonary lesions, climatic and sanatorium treatment should be afforded to all cases that possess the financial possibility.

DISCUSSION

DR. GUY McFALL, Detroit: I agree with Doctor Shurley in some things, and one is that I do not believe you ever see a case that is primarily laryngeal tuberculosis. I think if you search a little farther you will find the lesion in the lung or some other part of the body. It was formerly believed, and is still believed in England, that infection of the larynx is caused by sputum passing over the laryngeal surface. This is not true, but it is due to the toxic products being swept through the blood vessels and lymphatics. We then have a mining process in the submucous tissue which if it goes on will break through underneath outward.

The early case, if taken care of, as a rule makes a good recovery. We therefore should be careful in examining the larynx of all tuberculous patients, as Doctor Shurley says. If we wait to get the aphonia and hoarseness or something of that sort, the chances are it will be too late to secure a good recovery—provided, of course, that the case is not one which rapidly progresses. The rapidly progressing lung makes a bad prognosis for the larynx, although we do see many cases of laryngitis that have been treated and healed and yet the lung go on and be destroyed, while the larynx remained in good condition. If a laryngeal case suddenly develops a pain that goes up into the ears, it is bad. That means that you will have a rapid breaking down of the tissues, and I have seen cases where it swept up the pharynx, across the soft palate and utterly destroyed it. The soft palate becomes board-like and the patient regurgitates food, collapses and rapidly dies of starvation. The epiglottis does not cause much difficulty until you have involvement of the hinge. You may find the epiglottis rounded off, thickened and undermined and the patient will not complain until there is pain; pain is the last symptom and it simply means that the hinge has become involved. When the patient tries to swallow the hinge cannot move and there is very severe pain. Cocaine will do no good because the involvement is deep—cocaine only reaches the mucous surface. There is only one thing to do and that is to quiet it with alcohol injections.

I think the majority of men who see cases of laryngeal tuberculosis in general practice are inclined to believe that it means ulceration of the cords. Tuberculosis of the larynx does not begin as ulceration of the cord. If the ulceration extends to the attachments of the cord then you may have a detachment of the vocal cord itself; that is not uncommon. You have the vocal cord flapping around inside of the larynx and it causes a little hacking cough and is very distressing. If you are fortunate enough to have a healing of the ulceration and diminishing of the induration, there are two things that may happen. One is mechanical interference, not allowing traumatism of the cord; and there is a rounding of the edges of the vocal cord, after which the voice will remain hoarse. The sharp edges of the vocal cord will not go back into condition, and the voice

will remain hoarse. The local condition of the vocal cord may be cured, and yet after five years the voice will be husky. But we must not wait until we have the hoarse voice, or until we have symptoms of pain in the throat.

The subject of treatment has been quite a battle. In 1908, when we opened the Hermitage sanitarium we began to use formalin. The results were rather surprising, because in years past everything had been lactic acid, galvanic cautery, etc., without results. We found that with the use of three per cent formalin the ulceration rapidly cleared up. Then we kept on. We increased our percentages when we sprayed to clean the throat, because the throat in the advanced stage is filled with mucus. **We ran a series of cases; we sprayed one series and did not spray the other, and to our surprise the unsprayed cases did just as well as the sprayed cases, and since that time we do not spray these tuberculous throats before treatment. A swab is made—not too large. When you touch the sore spot the larynx closes down on the swab and the anterior part of the larynx is then covered with the medicine. There is contraction of the larynx and the swab extends within the opening of the larynx and then is pulled out. We had a few cases in which we removed the epiglottis, and I wish to state that I shall never do it again. I have never seen a patient with laryngeal tuberculosis strangle; I have never introduced a tracheotomy tube to save a patient's life. They die from toxemia and not from strangulation due to closure of the larynx. Amputation of the epiglottis may afford some relief at the time, but if the hinge is involved it will not afford much relief. You still have the stump of the epiglottis and you will have the pain just the same as if the whole epiglottis remained.**

The treatment of laryngeal tuberculosis can be done at home by intelligent people, but it is far better to have them in a sanitarium where they can have daily treatment. It does no good to treat the larynx occasionally, say three times a week; it must have daily treatment. Our method is once a day, in the morning, because that is the time when the patient is rested. If it is a bad case it is treated at the bedside; if it is an ambulatory case it is treated in the throat room. It takes but a few minutes for each case. But it does no good to just stick a swab down a patient's throat; it must get into the larynx. We all know that it is no easy thing to get into some larynxes. In some cases the epiglottis has a very narrow chamber and you have to cover it with your probe. Then we have the kind of patient that will fight, no matter how long you treat them. Then the tongue being held during the treatment brings the larynx up. In the sunlight treatment the individual must hold the tongue if we get the full benefit of the light and the full effect of the mirror, and it is only with intelligent people that we get the best results. If the larynx is down and you give the treatment to some man who does not understand the whole procedure, it is very easy to deflect the mirror

and throw a shadow over the larynx and the sunlight is gone. So really when you are treating the mass of the people it is not a procedure that you can use with great benefit. But we must use in sanatoria a method which the people will understand, which gives them relief, and will give us results. We have not increased our dosage of formalin. We use the aqueous solution, made fresh every morning. The X-ray has proved disastrous; so has radium.

When it comes to the climatic conditions, it is usually a question of money. We may be able to diagnose our cases correctly and select those that should go to one climate or another, but it is a matter of funds, it is a matter of breaking up the household. In many tuberculosis cases the patient is a mother with three or four children. There may be money enough to send her away, but there is still the mental attitude, and when you separate the mother from the family it is bad. They do well by these changes, there is no question about it. In Detroit and everywhere, there are cases that have come back after a change of climate, rested and subsequently cured, but there is a mental anguish that is an important factor, and if we could get away from that, we would get better results. The effort being put forth now by various societies and boards of health to induce people to remain at home and receive treatment in sanatoria, is doing a lot of good work and people are receiving it well. We cannot judge of these things in a few years. Five years does not mean anything in the treatment of laryngeal tuberculosis. It is a matter of twenty years to get results.

DR. BURT R. SHURLEY (closing): I simply want to emphasize the point that the early recognition of the laryngeal lesion is of as much importance as the early recognition of the pulmonary lesion, and every pulmonary case should have periodic examinations of the larynx to detect the very early signs.

The climatic problem of course is of importance, but 24 per cent of the cases that are sent away are found to be very badly selected. Of course these are mistakes of the profession. The question of the temperament of the patient is a very important thing to consider before you send them away.

I have operated a number of cases for removal of the epiglottis, and I cannot agree with Doctor McFall in this. I believe that it has a very distinctly palliative value and that it does increase the opportunity of the patient for improvement. I have two cases done a year ago, and while they are not cured, each having a marked pulmonary lesion, yet I believe removal of the epiglottis has a distinct place and that selected cases should be given this opportunity for improvement.

**The Journal is Your Forum—
We invite you to utilize it for
the expression of your views on
Medical Subjects.**

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

J. B. Jackson, Chairman.....Kalamazoo
R. C. Stone.....Battle Creek
J. McLurg.....Bay City
R. S. Buckland.....Baraga

Editor and Business Manager
FREDERICK C. WARNSHUIS, M. D., Sc. D., F. A. C. S.
Grand Rapids, Mich.

GUY L. CONNOR, M. D., F. A. C. P.
Associate Editor, Detroit.

Entered at Grand Rapids, Michigan, Postoffice as second class matter.

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 26, 1918.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to F. C. Warnshuis, M. D., 4th Floor Powers Theater Building, Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Subscription Price—\$5 per year, in advance

OCTOBER, 1922

Editorials

DEATH OF DOCTOR A. R. CRAIG

In common with the host of members of the American Medical Association we were more than shocked upon receiving the information that Dr. Alexander R. Craig, Secretary of the American Medical Association, died on September 2nd.

For more than ten years we have been in close relationship to him by reason of our office and our activities in the national House of Delegates. In this capacity we learned to hold him in high esteem and regard him with sincere respect. As secretary of our national association, he endeared himself to all those who came in contact with him. In his death the association has lost an officer whose replacement will be most difficult to accomplish.

COMMITTEE WORK

Our friend Bulson, editor of the *Journal of the Indiana State Medical Society*, makes the following comment:

"We are in favor of abolishing all committees except those that show some signs of life. It is the height of absurdity to appoint three to five doctors on a committee and at the eleventh hour have a committee report based on no

actual work of the committee, prepared hurriedly by the chairman, and presented at the annual session."

To all of which we say Amen. On several occasions we have stated that committee appointment is no idle honor. It means work. If you are unwilling to work, then resign. If we cannot have working committees, then let us abolish our committees.

Editorial Comments

This issue went to press before the minutes of the Ann Arbor Conference were available. A full report will be forth coming in the November issue.

With the resumption of society meetings County Secretaries are again urged to send in a report of their meetings. We will also appreciate news items from your county. Please see that they reach us by the fifteenth of each month.

The Joint Committee on Public Health Education will hold a meeting during the forepart of October. A new bulletin will be issued and arrangements will be made for the filling of lecture engagements during the fall and winter. If you have not sent in the subject of your address, please do so at once. This is the last notice.

Just so much space is available for original articles. The papers that were read at our annual meeting will be published as rapidly as possible. It has ever been our policy to select an equal number of papers from each section for each issue. This rule is violated only when symposiums are concerned in the transaction of a section. We make this announcement in order that authors will not become concerned over the non-appearance of their paper and commence to think that it has been mislaid. Proof is always sent before publication.

Frequently we receive requests for the mailing list of our state society or for a given district of the state. We regret that we cannot send out these lists. Our mailing list is on an addressograph and to run it off requires the time of one person for five hours and 3,000 separate slips of paper. Members desiring the addresses of physicians in Michigan are advised to consult the Directory of the American Medical Association. This directory is revised each year and contains the names of members printed in capitals, arranged by states, counties and location. Much more valuable information regarding the laws of each state, state institutions, hospitals, officials and boards is also imparted. Such a directory will furnish you with a splendid mailing list. If your local library does not have this directory you can secure it from the Directory Department, American Medical Association, 535 N. Dearborn St., Chicago.

With so many movements afoot that affect the doctor and which are concerned with public health measures, community free clinics, school clinics, hospital administration and legislation would it not be advisable to hold district conferences for the discussion of these subjects and measures? At such councillor district meetings the discussion should be limited to the attitude and interest of the profession to such propositions. Then some concerted action would ensue. The trouble seems to be that so many are concerned solely with their personal interests and take no time or give no effort to the solution of the problems of the entire membership. This work is left to but a few and they cannot work effectively without the support of the majority. The individual is as vitally concerned as is the entire profession. We feel that these suggested conferences will exercise a powerful influence in arousing the individual. They will also serve to acquaint the individual with facts that should be supplied for his good. Why not urge such a conference in your district?

Medical defense is a feature of our membership of which we are justly proud. We have an efficient and capable Medico-Legal committee. Under the chairmanship of Dr. F. B. Tibbals, this committee has made a splendid record, it has fully protected our members and conserved their interests. Due to Dr. Tibbal's activity this benefit of membership is extremely valuable. To continue to render this service the Medico-Legal committee merits your co-operation. To be successful to the fullest degree it needs your support. It can best attain desired ends when you comply with the rules and instructions of the committee. To that end we urge that when you are threatened with a suit, or, are sued you observe the following procedure: Notify immediately, the representative of your local society and also Dr. Tibbals. Engage no attorneys until advised by Dr. Tibbals. Do not discuss the case with anyone. Send all court papers and full facts of the case to Dr. Tibbals direct. Having done this follow implicitly the instructions sent to you. Prompt notification of all threats or suits is imperative.

Our profession is a living, growing, changing occupation that never can be wholly learned. No man can know everything and continue to learn. A man who can no longer learn is dead. Some doctors are dead the first year they are in practice, others die from the fifth, tenth, fifteenth or twentieth year of practice. The force of human inertia, however, is such that they walk around unburied, the coffin is unordered and in the meanwhile they attempt to render service as a doctor. They regard their work only in the light of a living.

If you cannot learn anything you are virtually dead; on the other hand if you want to get out of the dead class, if you are not too lazy, the opportunity and medium presents itself in your county medical society, your hospital clinics, and your state and national meetings. Added to these are the reading of recognized medical journals that are other than trade journals for some drug house. This winter the opportunity affords itself. Get busy; next spring you may be dead, and not know it.

No phase of medicine seems to have been so thoroughly investigated and thrashed out as often as ulcer of the stomach. With clock-like regularity the old question of treatment bobs up for discussion every once in a while. A decade ago internists and surgeons were vehement in their denunciation of

each other's tampering methods of treatment. Each derided the other not only for failure to cure, but also for failure to recognize the border lines of usefulness of the opposing type of therapy. Symposia contemplated to clarify the situation have more frequently resulted in a more obstinate retention of their view of the therapy of ulcer than in a compromise by the participants. The latest attempt at such classification has also apparently proved futile as warrant the discussions that follow; except in so far as some few general principles are accepted by both sides.

First, all recognize that there are some cases which have improved best on medical treatment and, vice versa, some on surgical. Second, there are cases which have persistently resisted medical care, but have been cured by surgery, and a great many surgically treated cases have returned to the medicine man for further treatment and an occasional cure after operation. Third, there are some cases which cannot be cured either by medicine or surgery alone. It therefore becomes evident that while there are two extreme types of ulcer one purely surgical and one medical, a large intervening group exists wherein medicine and surgery overlap each other, and this group forms the basis for dispute.

In view of this fact it would seem obvious that the rational attitude to assume is as follows: When a case of ulcer presents itself it should be treated medically until cured unless certain positive indications for surgery exist, such as impending perforations, frequent hemorrhages, gastric obstruction, etc., and the medical treatment should continue until the case is cured or improved or develops into surgical condition by the appearance of one of the above phenomena. If, however, none of the above phenomena appear and the case fails to improve, then it should be considered as one of those border-line cases lying between surgery and medicine whose best treatment seems to be surgery for the removal of the cause of the immediate distress followed by medical care and observation for the elimination of the factors leading to recurrence.

With this new understanding of the treatment of ulcer, a more rational attempt at cure, a great many more cases should be benefited than formerly.

Deaths

Doctor Frank Wilson Martin of Lansing was born in 1859 and died July 17, 1922. He graduated from the Medical Department of the University of Michigan in 1886.

Doctor R. E. Stocker of Brimley was born in 1882 and died July 23, 1922. He graduated from the Detroit Medical College in 1869.

Dr. Edna M. Trewin of Buchanan was born in 1868 and died July 28, 1922. She graduated from the Medical Department of the University of Michigan in 1912.

Doctor John C. Salmen of Pinconning was born in 1846 and died in Bay City, July 1922 from cerebral paralysis. He graduated from the Medical Department of the University of Michigan in 1878.

The death of the following doctors, not members of the Society, have been reported: Dr. H. W. Booth of Orion, Dr. John Leeson of Cadillac, Dr. B. R. Johnson, Cadillac.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. **H. C. VanAken, Lawyer,** 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

Dr. and Mrs. T. A. McGraw of Detroit spent the summer in Europe.

Dr. E. M. Houghton left Detroit, Sept. 6, 1922 for a trip to London, England.

Dr. and Mrs. Walter P. Manton of Detroit have gone to California to spend the winter.

Dr. and Mrs. John Harvey left Detroit September 8, 1922 for a two months' trip to Europe.

Dr. and Mrs. E. S. Sherrill of Detroit spent the summer in their cottage at Algenac, Mich.

Dr. and Mrs. A. E. Gehrke of Detroit announce the birth of a son, Robert B., August 22, 1922.

Doctors E. W. Haass and Max Ballin who spent the summer in Europe, have returned to Detroit.

Dr. and Mrs. Earl W. May of Detroit announce the birth of a daughter, Carol Helen, August 18, 1922.

Dr. Wadsworth Warren has removed his offices to suite 1405 Stroh Bldg., 28 Adams Ave., West, Detroit.

Dr. and Mrs. B. H. Larssen of Detroit announce the birth of a daughter, Selveig Margaret, August 23, 1922.

Dr. and Mrs. A. M. Humber returned Sept. 4, to their home in Highland Park after a two-months' trip abroad.

Dr. Walter P. Manton has presented the Wayne County Medical Society with a collection of lantern slides on cancer.

Dr. and Mrs. Arthur B. McGraw of Detroit announce the birth of a daughter, Sarah Edna, August 21, 1922.

Dr. and Mrs. E. T. Milligan left Detroit September 5, 1922 for Santa Monica, California. This will be their future home.

Dr. R. E. Loucks of Detroit was elected president of the American Radium Society at its annual meeting held in St. Louis.

The office of the Michigan State Board of Registration in Medicine was moved September 1, 1922 to 601 Stroh Bldg., Detroit.

Dr. Preston M. Hickey of Detroit recently moved

to Ann Arbor to take up his duties as Professor of Roentgenology in the University.

Dr. Robert T. Tapert of Detroit, sailed September 1, 1922 for Europe. While there the doctor expects to visit the hospitals of Vienna and Berlin, returning about October 16.

Major Ray W. Hughes Captain T. G. Amos and Captain C. W. Sellers, members of the Michigan National Guard, attended the recent fifteen-day encampment at Grayling, Mich.

Dr. Robert L. Harkness of Houghton was chosen Commander of the Department of Michigan, American Legion, September 6, 1922 at the 4th annual convention, held in Ann Arbor.

Dr. Sherman Gregg, formerly first assistant at the Kalamazoo State Hospital, has resigned and entered general practice with offices in the Kalamazoo Bank Bldg., Kalamazoo.

Dr. J. Van Becelaere of Detroit appeared before the California Board of State Medical Examiners and successfully passed an examination entitling him to practice medicine in that state.

In the 1922-1923 Detroit tax levy (\$43,098,245.85) the amount charged to the Detroit Department of Health is \$1,619,282.00. In other words 3.8 per cent of the total tax levy goes for the support of the Health Department.

The Genesee County Medical Society met Wednesday, Sept. 6, President Miner in the chair. Dr. Guy L. Bliss of Kalamazoo gave a most interesting and common sense paper on "The Diagnosis and Treatment of Tuberculosis in Childhood."

At its meeting, held May 4, 1922, the Pennsylvania Bureau of Medical Education and Licensure voted not to accept by reciprocity any physicians licensed in Illinois during 1921, because of irregularities reported in granting of licenses during that year.

Dr. Carson D. Merritt and Miss Ida Mae George, both of Flint were united in marriage at the parsonage of the Court street M. E. church by Rev. C. E. Stedman, pastor. They were attended by Dr. and Mrs. Guy D. Briggs. Dr. and Mrs. Merritt will make their home in Flint.

Dr. William A. Evans, Professional Bldg., 10 Peterboro St., Detroit, Mich., left Wednesday for Los Angeles, to attend the annual meeting of the American Roentgen Ray Society. Dr. Evans will read a paper entitled "The Value of the Roentgen Study of Mastoid Disease in Children Under Five."

The Lapeer County Medical Society tendered a dinner to Dr. S. A. Snow of North Branch, September 12. Dr. Snow has practiced at North Branch for 45 years. The dinner was a testimonial to the doctor for the continued interest he has demonstrated in matters pertaining to medicine, public welfare and community spirit. Twenty-three out-of-town guests were present.

"Doctor" Harold "Crown Breeze" Jackson of Detroit, sentenced to serve six months and to pay \$200 fine for violating the medical law, went to the work house December 23, 1918. He stayed until January 17, 1919, when he furnished \$2 000 bail for his re-

lease and filed an appeal. When the appeal came up for hearing, "Doctor" Jackson had skipped. He was caught a few weeks ago in Denver, September 5, 1922, he was ordered back to the House of Correction to complete his term, on an order issued on motion of Prosecutor Voerheis. His bail, of course, has been forfeited.

It is reported that Governor Small of Illinois has dismissed W. H. H. Miller, director of the State Department of Registration and Education, who was indicted by the grand jury at Chicago on a charge of selling numerous physicians' licenses and druggists' certificates. A. M. Shelton of Crystal Lake has been appointed to succeed him. Miller's dismissal followed his refusal to resign after a medical board had recommended his removal some months ago and hundreds of letters from all parts of the state had been sent to Governor Small attacking Miller's administration.

The Reciprocity Committee of the California Board of Medical Examiners have made the following report: "It has been brought to the attention of this Board that questionable procedure in examinations has resulted in the reported indictment of certain officials of the Department of Registration of the State of Illinois and your committee recommends that reciprocity applicants based upon Illinois credentials for the year of 1921 be refused recognition in California. It is further suggested that until the board is satisfied that no further irregularities exist in Illinois, reciprocity recognition be withheld and that a copy of this report be sent to the Illinois Board."

County Society News

GENESEE COUNTY

At the July meeting of the Hurley Hospital staff, Dr. Leon Bogart spoke on "Fractures of the Skull." At the August meeting Dr. Carl Chapel addressed the staff on "The X-ray Treatment of Toxic Goiters."

Dr. Ernest Cook, formerly of Grand Blanc has arrived safely in Alaska. He will be in charge of a hospital there.

The annual picnic of the Genesee County Medical Society was held at the Boy Scout Camp, Pine Lake, on Wednesday, August 16, and was largely attended. Nurses from the City Health Center and from Hurley Hospital were guests. The afternoon was spent in athletic contests, the principal feature being a baseball game between teams captained by Drs. Charles O'Neil and Carl Moll. Record syringes valued at \$25 were donated by William Riddell of the J. F. Hartz Co., as prizes. After dinner addresses were given by Dr. George Pratt of Boston, formerly of Flint and now medical director of the Massachusetts Society for Mental Hygiene, Dr. Harley Haines of Lapeer, Dr. F. J. O'Brien of the National Association for Mental Hygiene, Dr. W. J. Kay of Lapeer and Rev. J. B. Pengelly of Flint. A good orchestra furnished music and the evening was devoted to dancing.

W. H. MARSHALL, Secretary.

NORTHWESTERN MICHIGAN CLINICAL SOCIETY

Meeting of the Northwestern Michigan Clinical Society was held on the evening of July 7, 1922 at the Traverse City Country Club. Some twenty-four members were present. Meeting was called to order after an elaborate dinner, by Dr. Moore, president. Minutes of the last meeting were read and approved a discussion as to places of meeting and clinics following.

On invitation of Dr. Fralick, the Society decided to hold a meeting at Glenn Lake some time in August, date to be fixed by Dr. Fralick.

A very interesting paper was given by Dr. Shambaugh of Rush Medical College, dealing with conditions of the ear, nose and throat. This paper was followed by a discussion which brought out many phases of ear, nose and throat trouble. The doctor also laid stress on the importance of being conservative relative to operative work on ear, nose and throat and the operator should be not only skillfully trained in operating, but should also be able to say the operation was needed as well.

Meeting adjourned at 10:15, all present having reported that they were very much pleased to have been in attendance.

The meeting of the Northwestern Michigan Clinical Society was called to order by President S. C. Moore August 25, 1922 at the Traverse City Country Club. Some twenty-two members being present and many guests. Following an elaborate dinner given by the Country Club a short business meeting was held. Minutes of the last meeting were read and approved. The matter relative to the picnic at Glenn Lake was taken up and after some discussion it was decided that this meeting should be postponed until another year. A suggestion was made that the next meeting hold an Orthopedic Clinic.

At this point the program was turned over to Dr. J. F. Gruber who had been able to secure for the Society, the two Doctors from Battle Creek. Dr. Gruber first introduced Dr. Pritchard who gave a talk on "Non-surgical Conditions of the Chest." Following this, Dr. Mortensen talked on "Renal Efficiency." Both of these papers and discussions proved to be very interesting and beneficial to the members.

Dr. Watterson who was with the United States Veterans' Bureau gave a very interesting talk on how to "Undiagnose Tuberculosis." He told something of the greater problem which the government has had in dealing with this classification.

Dr. Ward of the Mutual Life Insurance Co., of New York who was also a guest gave a short resume of the evening's program and its relation to insurance examinations.

Dr. Parnell of the University of Michigan was also a guest at this meeting and made some very interesting remarks.

Interest shown at this evening session demonstrated the value of the Society to the physicians in this vicinity. A vote of thanks was given the Battle Creek physicians for their program.

Meeting adjourned at 10:30, all present having conceded that it was one of the best evening programs which we have had.

O. L. RICKER, Secretary.

Book Reviews

ENDOCRINE GLANDS AND THE SYMPATHETIC SYSTEM. By P. Lereboullet, et al, translated by F. Raoul Mason, M. D., Instructor of Pediatrics, New York Post-graduate. With the collaboration Daniel R. Ayres, A. B., M. D. Cloth, 375 pp. J. B. Lippincott Co.

The endocrines have been the subject of much discussion and many theories. Much that is foolish has been written. It is time that a sane basis was reached for therapeutic purposes. This text is clear in its presentation of proven facts and thus becomes a guide that will authoritatively enlighten the reader. It covers the physiology as well as the pathology and thereby assists in clarifying normal and pathological conditions. It is a text meriting much commendation.

DISEASES OF THE THYROID GLAND. Arthur E. Hertzler, M. D., F. A. C. S., Professor of Surgery, University of Kansas. Cloth, 240 pages. Price \$5.00. C. V. Mosby & Co., St. Louis.

This text arrests special attention because it is the writer's personal experience in a limited community. He has imparted a discussion that is not influenced by the surroundings of a large clinic. His application of treatment is based upon end results that extend beyond the patient's dismissal from the hospital. It therefore is a text of great practical value.

The chapter on hospital management and care of these patients enhances the value of the text as a whole. All in all this text is destined to be of material aid to the internist as well as the surgeon.

PRINCIPLES AND PRACTICE OF X-RAY TECHNIC FOR DIAGNOSIS. John A. Metzger, M. D., University of California. Cloth, 61 illustrations. Price \$2.75. C. V. Mosby Co., St. Louis, Mo.

These principles will enable the student and operator to make a more correct diagnostic interpretation. It describes and illustrates exposures, positions, developing room appliances and technic.

It should prove to be of material assistance to every radiologist in the systematization of his work.

DISEASES OF THE SKIN. Henry H. Hazen, A. B., M. D., Professor of Dermatology, Georgetown University. Second edition, cloth, illustrated. 602 pages. Price \$7.50. C. V. Mosby Co., St. Louis.

The text has been rewritten and emphasis has been laid upon radio and active ray therapy. Common diseases are fully described and treatment intelligently discussed. It is a text that will enable the general man to recognize and properly treat skin lesions that are common in his practice.

It merits a place in the library of every active physician.

OBSTETRICS FOR NURSES. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. New (6th) edition, entirely reset. 12mo of 525 pages, with 245 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth \$3.00 net.

This new edition has been entirely revised and

reset and includes every recent development of proved value. In addition to the text which excels all others, the features are its 245 illustrations, the correlation of the work of the nurse and physician, the **emphasis of the human side** of obstetrics and the glossary of important terms.

No nurse is **competent to attend** an obstetric case until she has mastered this text. It should be the text of every training school.

FROM THE SALICYLATES TO CINCHOPHEN

The salicylates have had their day. One by one, those who have been prescribing them in years past are turning to Cinchophen. And they are wise to do so. For clearly Cinchophen is the better drug in many cases of acute rheumatism and other painful conditions.

Precisely how it acts within the body is still a question. But we do know that neither the salicylates nor any other drug so sharply increases the elimination of uric acid. A decided increase is obvious in the voidings and can be demonstrated easily by urine tests.

Simultaneously, in a rheumatic person, the subjective symptoms disappear or, if persistent, become less troublesome. A pleasing fact to note is that Cinchophen is less irritating to the kidneys than the salicylates. Albuminuria occurs but seldom; when it does it is not nearly so severe.

The Abbott Laboratories, Chicago, announce lower prices for Cinchophen, which is well seeing that the drug is so useful. The same firm is also making Neocinchophen.

ACRIFLAVINE

This drug continues to attract users, the verdict of whom is that it is a valuable new asset in genito-urinary practice. It appears to terminate an attack of gonorrhea in less time than other germicides employed by injection or irrigation. Presumably this is due to its exceptional penetrability.

An increasing number of physicians are prescribing it by mouth, as a urinary antiseptic. For this purpose, however, only a strictly pure and high grade salt should be prescribed, such as that supplied by the Abbott Laboratories, Chicago. Their Acriflavine more than meets the tests for purity required by the Council on Pharmacy and Chemistry of the American Medical Association.

This firm is supplying tablets of suitable grainage both for making solutions and for oral use.

**We accept only honest ads.
Favor those who favor us.**

**Say you saw the ad. in
OUR JOURNAL
Let's Pull Together**